

# **EC 694 - PVP**

**Configuration Program for Correctors**

Version 1.85

## **User's Manual**

Status: December 21, 2000

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# 1 Introduction

The PVP Configuration Program for Correctors is intended for installation on a Windows computer (PC or laptop computer) and is used to

- read measured values, configuration values and data of the data-logging memory from the EC 694 corrector and show them in the form of a table or graph;
- change configuration values within the corrector;
- export data for further processing. The data are exported to ASCII files with settable delimiters and can directly be further processed in spreadsheet programs like Microsoft Excel.

For PVP, two interfaces are provided on the corrector which can be used optionally:

1. the optical read head
2. the 3-wire interface.

The optical read head is plugged onto the front of the EC 694, while the 3-wire interface is connected on the right side of the device by means of a circular connector. To ensure correct functioning of the 3-wire interface at the RS 232 interface of the laptop computer or PC, the connecting cable must be provided with a coupling element. This coupling element converts the levels of the 3-wire interface to the RS 232 levels of the PC. The coupling element is supplied by the handshake lines of the PC interface. For this purpose, it must be ensured that at least 8 V are applied to the pins 7 or 8 of the 9-pin subminiature Cannon connector.

The coupling element should be located on that side of the cable which will be connected to the PC.

The optimum baud rate to be selected should be 9600 baud; other configuration values have fixed settings which cannot be changed.

**!** Please read the following sections absolutely before installation and first start:

1.5 Installing PVP

1.13 Initial program start

Especially the section "Selecting the interface"

3.1 Database/Manage database, especially the sections

3.1.1 General

3.1.2 Creating a new device master record

The settings of the mode of storage and online/offline mode which are necessary for this are described in section 2.7.

**Note:** without correctly selected interface and without a device master record, configuration and visualization are not possible!

## **1.1 *Scope of supply***

The program package consists of a CD-ROM or three 3.5" diskettes. In addition to the Configuration Program for Correctors (PVP), Borland database drivers will be installed (see page 7).

PVP and the database drivers are 16-bit programs which can be installed under Windows 3.1/3.11, Windows 95/98 and Windows NT 4.0.

The Borland database is a background program which PVP requires for managing data tables. These programs are not visible to the user.

## **1.2 *Licenses / Warranty***

Wieser/RMG, the Licensor, allows you, the Licensee, to use the PVP program under the terms agreed when buying the program. The PVP program installed on an IBM compatible computer in Microsoft Windows operating environment enables communication with one or more Series EC 694 correctors.

The documentation provided explains the use and structure of the PVP program.

### **Limitation of warranty**

Wieser/RMG warrants to the Licensee that the original diskettes are free from defects and will perform faultlessly under normal use for a period of one (1) year. If a defect should occur in one of the diskettes during this period, the diskette may be returned to Wieser/RMG who will replace it without charge.

We disclaim all warranties for the correctness of the contents of this manual. Since errors cannot be excluded totally despite all efforts made, we would be thankful to receive your relevant information at any time.

### 1.3 System requirements

In order for PVP to operate correctly and achieve a satisfactory working speed, the PC or laptop computer onto which PVP is to be installed must satisfy certain requirements. The following table describes the minimum requirements and shows recommendations for an optimum environment.

	<b>Minimum</b>	<b>Recommended</b>
Operating system	Windows 3.x, Windows 95, Windows 98, Windows NT 4.0	Windows 95, Windows 98, Windows NT 4.0
Processor	Pentium 133	Pentium II 200 or higher
RAM	16 megabytes	32 megabytes or higher
CD drive resp. Floppy disk drive	650 megabytes  3.5" 1.44 megabyte	650 megabytes  3.5" 1.44 megabyte
Hard disk space	5 megabytes	100 megabytes
Mouse	Microsoft mouse or compatible	Microsoft mouse or compatible
Communications port	1 serial port RS 232	1 serial port RS 232

#### **Required storage capacity for archiving data:**

Hourly data:	64 kilobytes per month and measuring point
Messages:	16 kilobytes per measuring point
Tables of configuration values:	25 kilobytes per measuring point
Other:	10 kilobytes per measuring point

### 1.4 Environmental conditions

Please note that when working with the optical read head, it is absolutely necessary for using a laptop computer in a safe area that certain environmental conditions are met (ventilation, authorization, etc.). When using the 3-wire interface, an explosion-proof isolating device can be interposed or permanently installed in order to enable communication with the corrector outside the safe area.

## 1.5 Installing PVP

Insert **CD-ROM** or **diskette 1** in the appropriate floppy disk drive and start installation depending on the Windows operating environment used as follows:

### Windows 3.x

- From the **Program Manager**, open the **File** menu.
- On the **File** menu, select the **Run** command.
- In the command line box, type the following text:  
CD-ROM:       **[Drive:]disk1\setup** (e.g. d:disk1\setup)  
Floppy disk:   **[Drive:]setup** (e.g. a:setup)
- Click **OK**.
- Follow the instructions of the installation program.

### Windows95/98/NT

- Click the **Start** button.
- Select the **Run** program.
- In the command line box, type the following text:  
CD-ROM:       **[Drive:]disk1\setup** (e.g. d:disk1\setup)  
Floppy disk:   **[Drive:]setup** (e.g. a:setup)
- Click **OK**.
- Follow the instructions of the installation program.

You can freely select the base directory for installation. If this directory does not exist, it will be created automatically by the installation program. Please note that only directory names comprising a maximum of 8 characters are permissible (Windows 3.X convention).

A program group will be created which will include the icon:



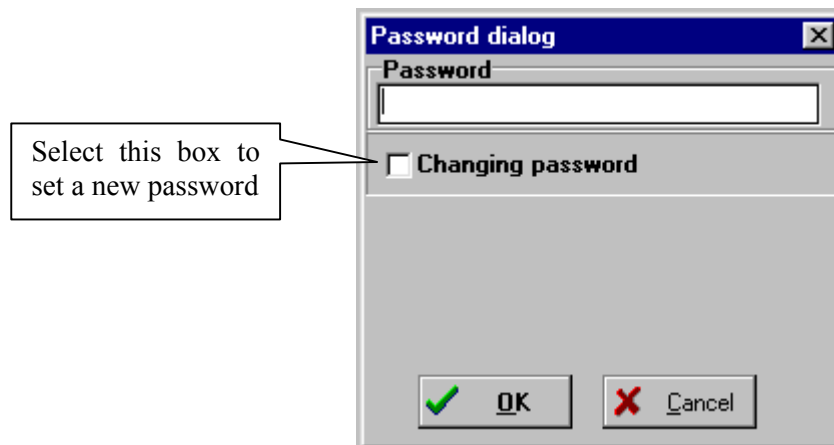
Drag this icon to your desktop and you can start the program by a simple mouse click.

## 1.6 Password

### 1.6.1 Using a password

Using the OPTIONS menu, you can configure the PVP program. Once you have made your settings, you can protect them by means of a password. If a password has been set, the OPTIONS menu will be disabled after the start of the program. If you want to change settings, you must type the password. To do this, click FILE in the main menu and then PASSWORD.

The password can be alphanumeric. No distinction is made between upper-case and lower-case letters.



It is also possible to leave the password field empty. Then the OPTIONS menu will be enabled automatically after the program has been started and no password must be entered.

### 1.6.2 Changing the password



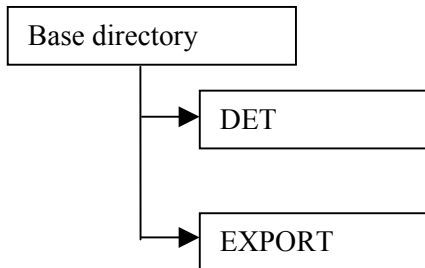
You can change the password by selecting the **Changing password** box. Then the password dialog shown here will be displayed. Type the new password in the **NEW PASSWORD** field and repeat it in the **RETYPE PASSWORD** field. If you have already set a password, you must first type the old password! Then click OK. If all your entries are correct, the password dialog will be closed without any further message. In the event of an error, appropriate messages will be displayed.



If you cannot remember the password set, you must reinstall the program. Then all settings made in the OPTIONS menu will be lost. The archive and master data will be retained.

## 1.7 Directory structure and files

The installation program creates the following directory structure for PVP:



You can freely select the base directory during installation (see page 4). Below the base directory, the DET and EXPORT subdirectories are firmly created by the installation program.

### **BASE DIRECTORY (program directory, e.g. EC 694)**

PVP.EXE	Executable PVP (Configuration Program for Correctors)
PVP.INI	This file includes all important program settings. Do not change these settings directly in the file, but only through the OPTIONS menu of PVP.
PVP.HLP	Help file
LOGO.BMP	This file contains a graphic which is printed at the log head. You can replace this file by a file containing your own company logo. The ratio between the height and width of the graphic should be 1:1.5 and its size about 200 x 300 pixels.
RMG.BMP	

### **DET (table directory)**

EXPOLIST.DB/.PX	
GRAFIK.DB/.PX	
JOURNAL.DB	Journal file
MAXIMA.DB	Stored maxima
MELDNAME.DB/.PX	
MELDUNG.DB	Stored events
MOMENTAN.DB/.PX	List of online data displayed
PARA.DB/.PX	Contains the field description of the PARAM table.
PARAKOM.DB/.PX	
PARAM.DB/.PX	Contains all configuration records read from the correctors.

PARATMP.DB/.PX	
PARAROLL.DB/.PX	
PARAS.DB/.PX	
PARASTMP.DB	
PARAZELL.DB/.PX	
PARAZUG.DB/.PX	
STADE.DB/.PX	Bilingual names of configuration values and additional information which cannot be read from the corrector.
STAGERAT.DB/.PX	Device master records
STAGRUPP.DB/.PX	Bilingual group names
STALISTE.DB	
STAMENU.DB/.PX	
STANAME.DB/.PX	
STASTAND.DB/.PX	
STATEXT.DB/.PX	
STDWERTE.DB/.PX	Hourly data (blank)
STDWORK.DB/.PX	Work table (blank)
TEXTE.DB/.PX	Bilingual program texts and messages
UBSTAG.DB	Day evaluation (blank)

**EXPORT (blank directory for data export)**

## **1.8 Borland database drivers**

The Borland database drivers version 95N will be installed.

The Borland database drivers will be installed in the IDAPI16 directory. The directory will be installed on the same drive which also contains the WINDOWS directory. Usually, this will be the drive C:. In this case, the drivers will be installed in the following directory:

C:\IDAPI16

If a directory of the same name exists on the computer, the drivers will be copied to this directory. If older drivers exist in the directory, these drivers will be overwritten. Basically, it is advisable to rename a possibly existing C:\IDAPI16 directory prior to installation.

The [IDAPI] section in the WINI.INI file will be changed or newly created as appropriate.

[IDAPI]

DLLPATH=C:\IDAPI16

CONFIGFILE01=C:\IDAPI16\IDAPI.CFG

## 1.9 *Standard settings*

PVP can be customized by means of the OPTIONS menu. The program is supplied with the following settings:

### Program

Startup options:	none
Display of configuration values	Groups of correctors
Mode of storage	off
Interface mode	online
What's this?	on
Monitor	off
Print preview	on
Readout interval	4 s

### Serial port

COM	none
Baud rate	9600

### Archives

Decimal places for p values:	2
Decimal places for T values:	2
Last hour of day:	6 h
Disturbing quantities	on
Sum of dist.quant.+main quant.	on

## 1.10 Operating modes

### 1.10.1 General

The program can be operated in the following modes:

**Interface mode:**      Online              Offline

**Mode of storage:**    On                      Off

The following settings are appropriate:

Online/Mode of storage On

Online/Mode of storage Off

Offline/Mode of storage On

The Offline/Mode Off and storage Off setting in combination is not appropriate, since the program is without any function here.

You can set the operating modes through the *OPTIONS* menu (see page 27). **If you change a setting, you must quit PVP and restart it** so that the change can take effect.

### 1.10.2 Interface mode

PVP can be operated online or offline. In offline mode, there is no communication with a corrector. In this mode, it is possible to view, print or export archived data, for example. Furthermore, you can create device master records.

If you want to read out data from the corrector or set configuration values, you must switch PVP to online mode. In this mode, there is a constant communication between the corrector and PVP. For example, the identification and the state of the calibration switch are read out and displayed in the status bar at the bottom of the window. If the field where the identification is shown flashes green, the connection has been established. If it flashes red, the connection has been interrupted. In addition, the symbol of an LED located on the left edge of the status bar shows the interface mode (see page 12).

The interval which is used to read out the status information from the corrector can be set (see page 28). When PVP is delivered, the interval is preset to 2 seconds.

### **1.10.3 Mode of storage**

The mode of storage can be switched on or off. If the mode of storage has been set to “Off”, the corrector data will not be stored on the PC. Advantage: No device data are required on the PC for communication with the corrector. The off mode is used to make settings on the EC 694 and view the data archived within the corrector. When the program is closed or another corrector is connected, all data previously read out will be lost.

If the mode of storage has been set to “On”, PVP requires a device master record stored on the PC. The device master record is assigned to the corrector through the identification. If a connection between PVP and the corrector has been established, first the identification is read out from the corrector and a check is made to see whether device data are stored for this identification. If they are not, the program forces the user to create a device master record. If the mode of storage has been set to “On”, all data read out from the corrector will remain stored within the PC and can be viewed or printed later.

### **1.11 Configuring the menu**

It is possible to customize the menu. This means that you can limit the menu commands accessible to the user. To do this, select **CONFIGURATION** on the **OPTIONS** menu (see section 2.7.5, page 31).

All configurable menu commands and program functions are listed on this tab. Only the commands enabled (i.e. checked) are available. The **OPTIONS** menu itself cannot be disabled for obvious reasons.

Configure the program for a particular task and then protect the **OPTIONS** menu with a password (section 1.6, page 5). In this way, the configuration set can no longer be changed by the user.

### **1.12 Monitor**

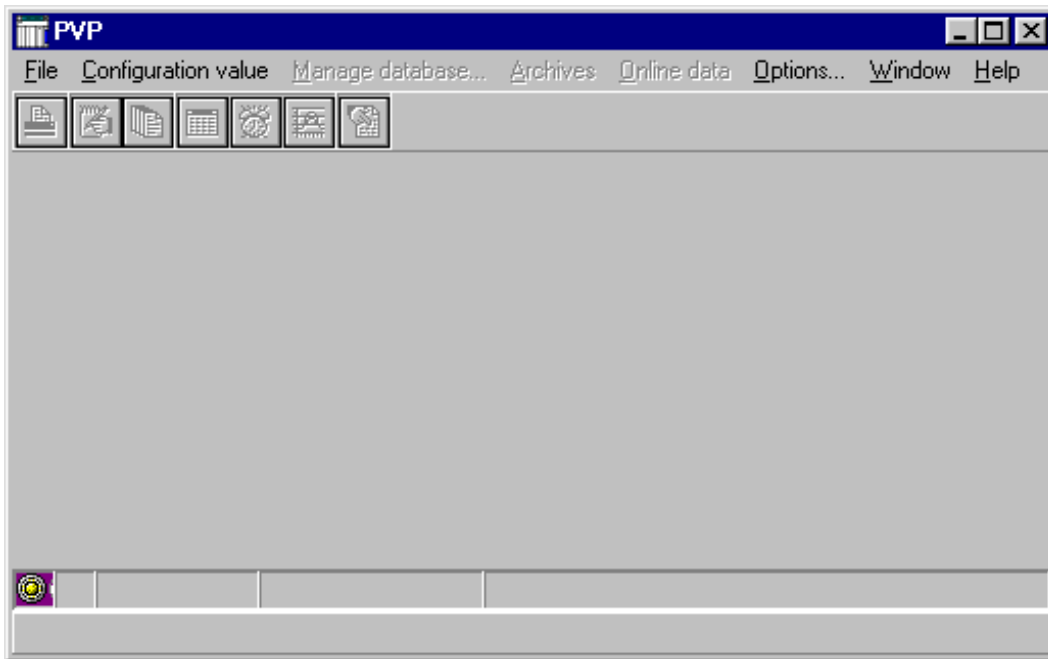
You can switch on the monitor to observe data transmission between the corrector and PVP. If this function has been enabled, a window will open during transmission where you can track the data. This is useful when calling large data volumes, since otherwise only the hourglass will be visible but not the progress of data transmission.

### 1.13 Initial program start

To start the program, click the icon:



During the startup operation, which can take up to 10 seconds depending on the speed of the computer, a start picture with the RMG logo will be displayed. After the startup operation has been terminated, the program will respond with the following picture:



#### Selecting the interface

The program requires a serial interface (COM1 to COM4) for operation. After the program has been installed, **no** interface will be set as standard. To set the interface, select the OPTIONS menu and the SERIAL PORT tab. Now select a free interface through which you want to connect the correctors to the PC in the future. Furthermore, you must set the "Online" operating mode. Click the OK button to quit the settings dialog (section 2.7.3, page 29). You must quit and restart the program so that the changes can take effect.

#### Connecting the corrector

Now connect the corrector via the optical read head or the 3-wire interface to the serial interface of the PC set in the PVP program. When the connection to the corrector has been established, the identification and the serial number will be displayed in the information bar. If the mode of storage has been set to "On", the program will automatically activate the database management function. Before you can continue with your work, you must create a master record for the corrector connected. Further information, see section 3.1.2 on page 33.

## 1.14 Description of the most important operating functions

### 1.14.1 Base functions

PVP provides the following base functions:

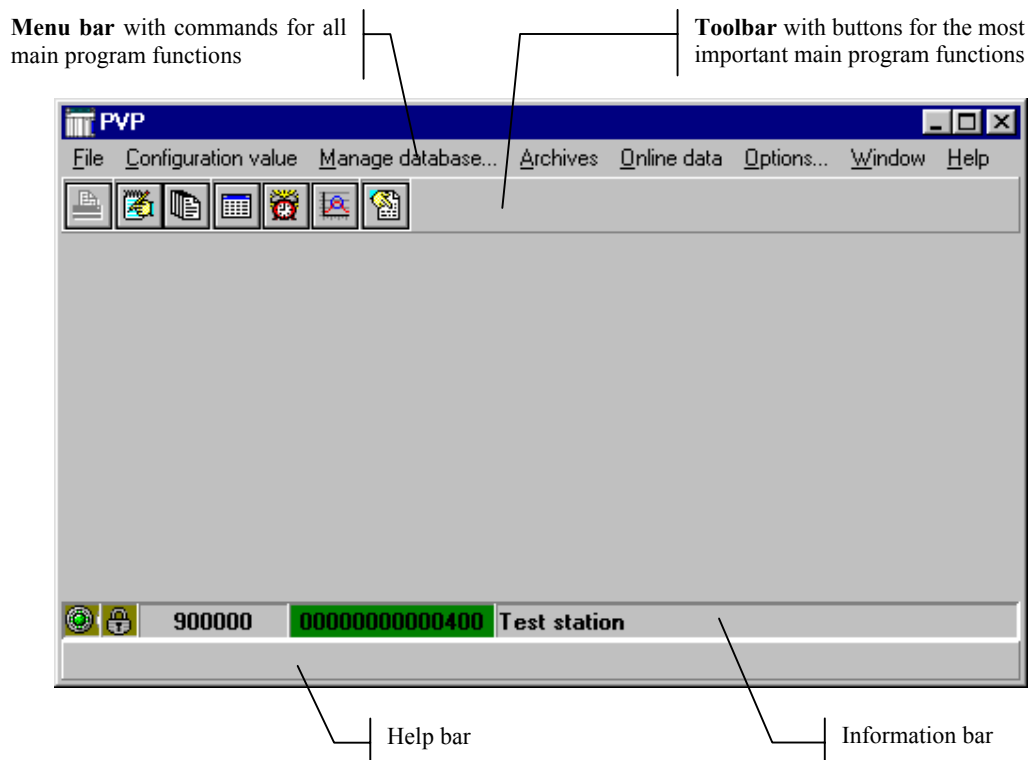
- Configuration
- Database management (device data)
- Reading out, viewing and evaluating hourly data
- Reading and viewing events
- Reading and viewing maxima
- Displaying online data

Each base function is executed in a separate window. When you activate a base function for the first time, the appropriate window will be generated. If you then activate another base function, the old base function window will be covered by the new window, but the old window will be retained. Online data display is an exception to this: The window for online data display is closed, if you activate another base function.

If you press the key combination CONTROL+TAB, you can switch between the various base function windows. You can also cascade or tile the windows. To do this, activate the menu commands WINDOW/TILE WINDOWS HORIZONTALLY or WINDOW/CASCADE WINDOWS.

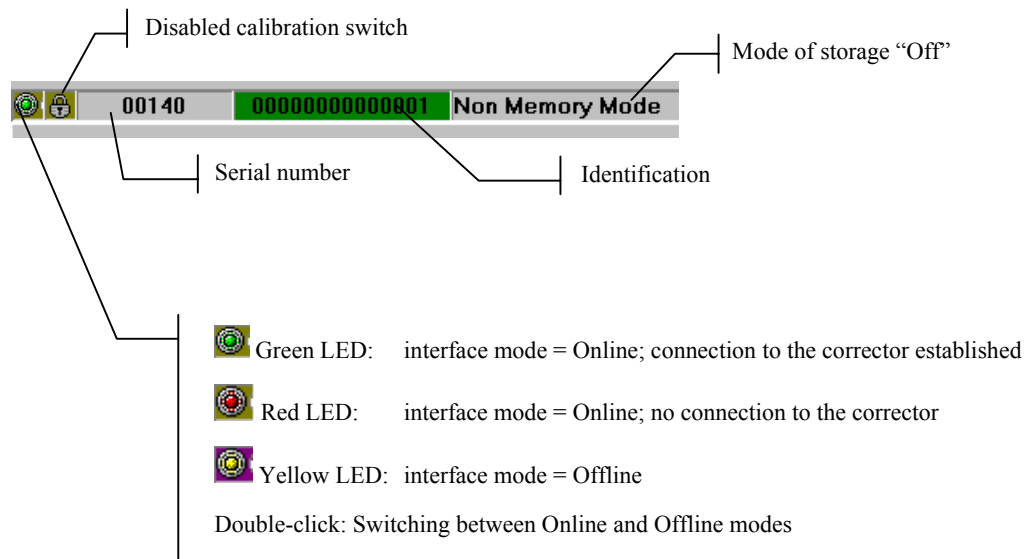
### 1.14.2 Main window

If the program is started without startup option, it responds with a blank main window:

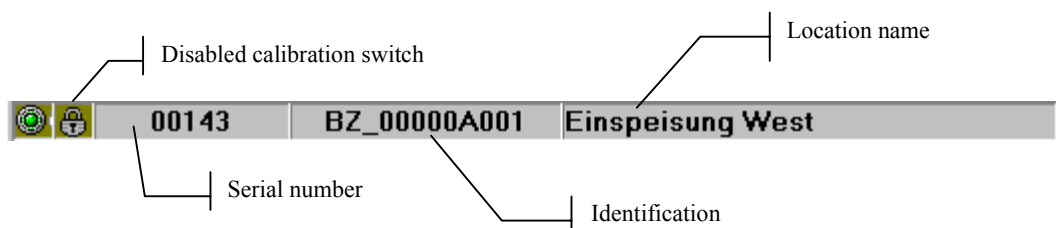


If you start a base function (database management, configuration, archives viewing, online data display), the window associated with this function will be displayed in the main window between the toolbar and the information bar. If the program starts with a startup option, i.e. if a base function is automatically activated when the program is started, the window pertaining to such base function will also appear at the start.


**Information bar with mode of storage set to “Off” and data connection to the corrector established**



**Information bar with mode of storage set to “On” and data connection to the corrector established**



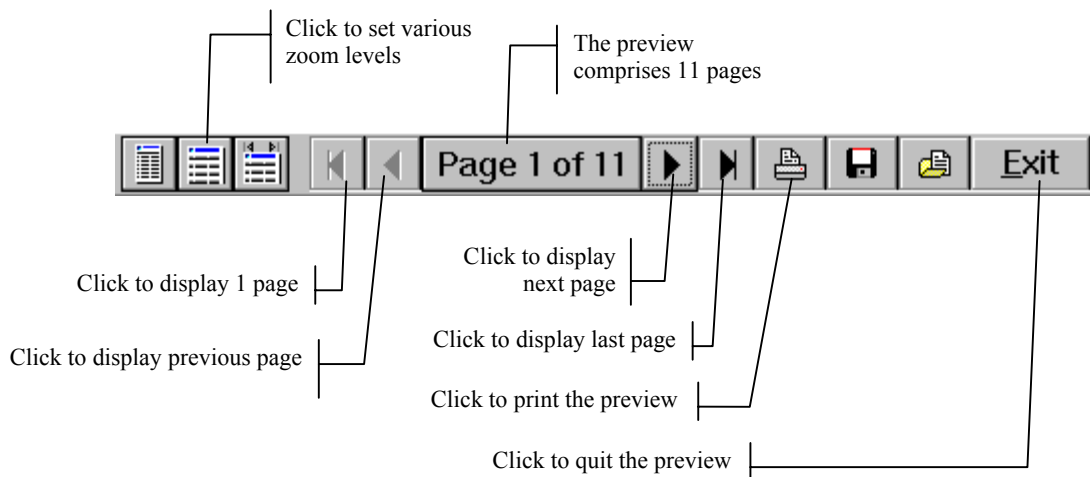
### 1.14.3 Printing, print preview

It is possible to print the majority of the values displayed. Printing can be started globally by clicking  on the toolbar of the main window or through the menu command FILE/PRINT. The data of the active base function window are printed in each event.

In most cases, a dialog is shown after printing has been started where you can select the time range of the data to be printed.

You can specify in the OPTIONS dialog on the PROGRAM tab whether a preview is to be shown or not prior to printing.

#### Function button bar of the print preview



## 2 Description of menu commands

### 2.1 Overview

You can start the main program functions by using the menu bar. In addition, you can start the most important functions by clicking buttons or pressing the function keys F2 through F11. The buttons are located on the button bar below the menu bar (see page 12).

#### File

Password	F2
Print	F3
Print setup	F4
Exit	

#### Configuration

Configure	F5
Define task-specific user groups	F6

#### Database/Manage database...

F7

#### Archives

Hourly data	F8
Events	F9
Maxima	F10

#### Online data

F11

#### Options

F12

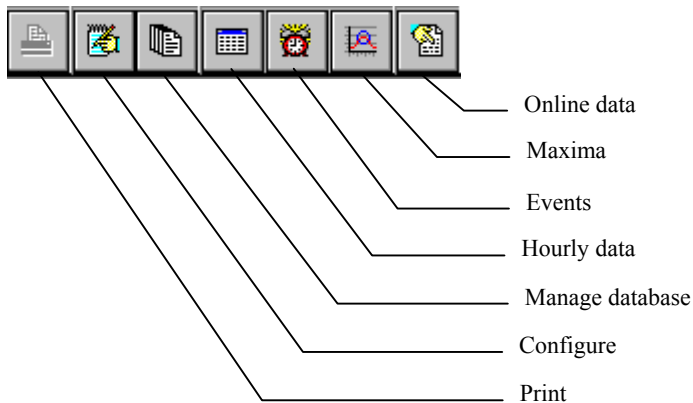
#### Window

- Tile windows horizontally
- Cascade windows
- Monitor

#### Help

- Contents
- Find
- Info

#### Button bar with buttons for quickly executing commands:



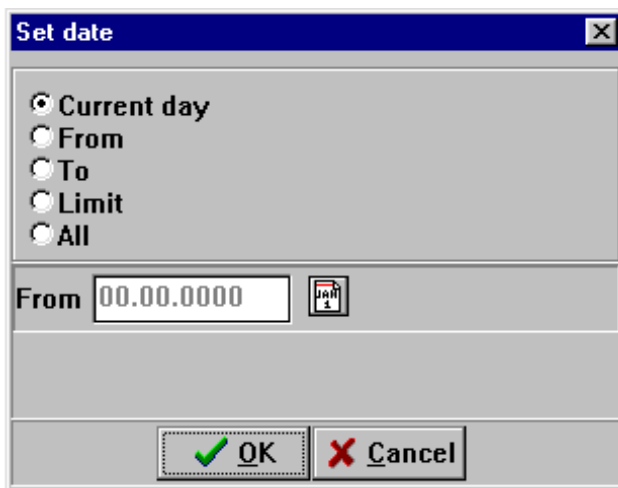
## 2.2 Menu: FILE

### 2.2.1 Password <F2>

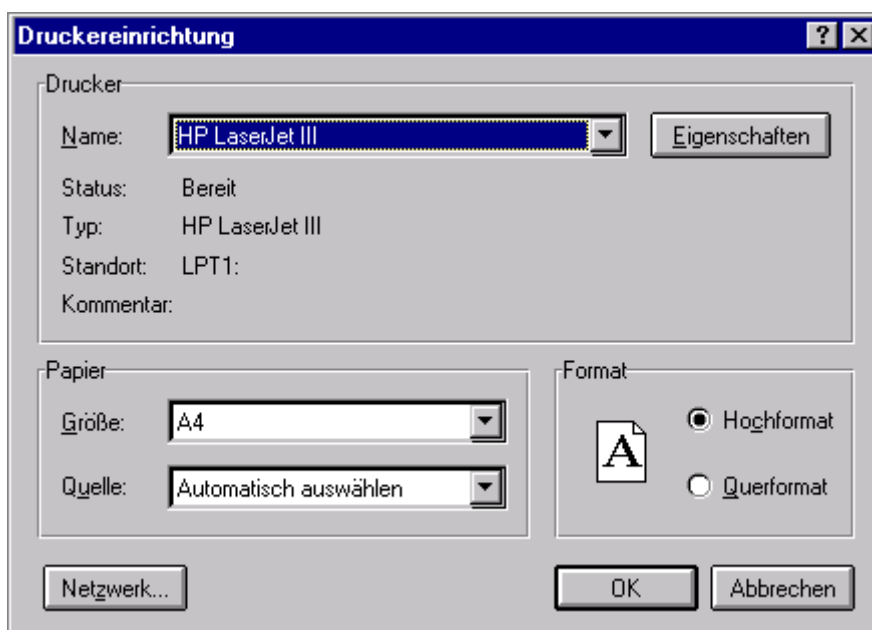
The password only protects the OPTIONS menu against changes. All the other functions are available without password. For information on entering or changing the password, see **section 1.6** of this manual.

### 2.2.2 Print <F3>

The data of the displayed or active window will be printed. These data can be either table data or a graphic. If table data are printed (e.g. hourly data), a dialog appears prior to printing where the time range for the print can be specified. For further details regarding printing, see also the descriptions of the program functions of hourly data, events, etc.



### 2.2.3 Print setup <F4>



The language in this dialog is that of the operating system (in this figure it is German). If you have an English operating system, the text will be displayed in English.

PVP uses the printer drivers installed under Windows. Normally, the default printer specified in the Windows printer dialog is used for printing. In the print setup dialog, you can select any other printer installed on the PC for the current program session. In the event of a restart of the program, the default printer will be preset again.

## 2.3 Menu: CONFIGURATION

### 2.3.1 Configure <F5>

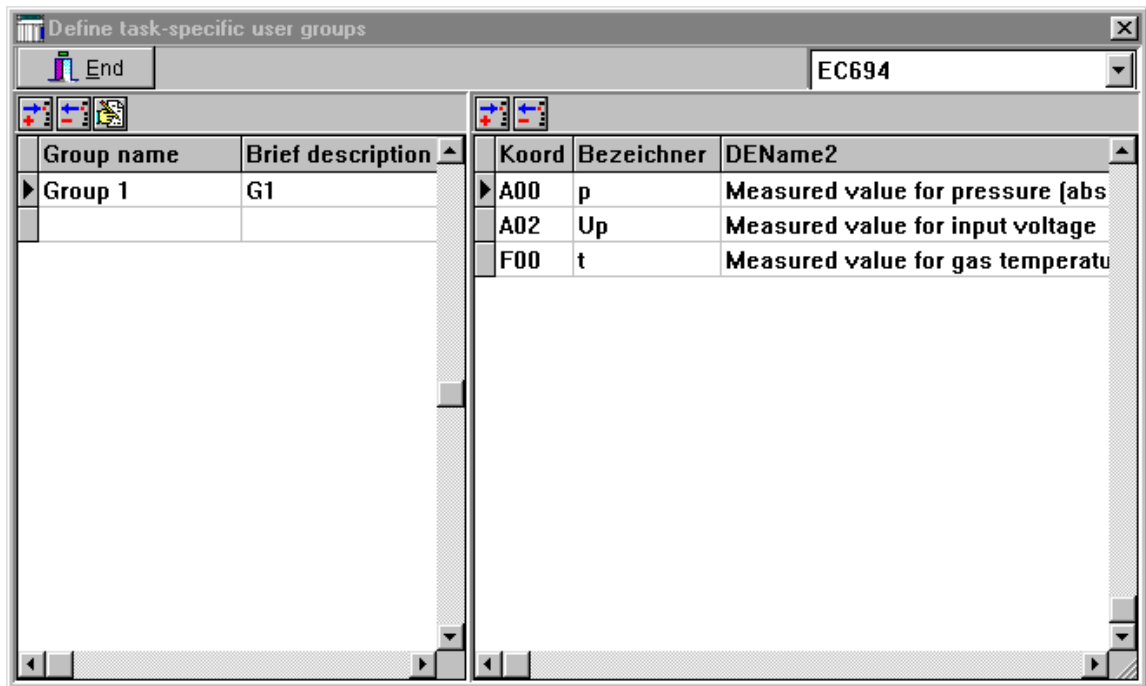
All configuration values from the corrector can be read, displayed and set. If the program is in the “Off” mode of storage, the data elements will be read automatically when you activate this program function for the first time during a program session. If the program is in the “On” mode of storage, the data elements list stored or a blank list will be displayed.

Coord	Abbreviation	Current value	New value	Unit	Description
A04	pmin	0,700		bara	Lower adjusting value and fault limiting value
A05	pmax	2,000		bara	Upper adjusting value and fault limiting value
A06	pvor	1,300		bara	Default value (replacement value if a fault occ
A08	pn	1,01325		bara	Standard pressure (reference quantity)
A12	pMod1	' Ein '			Current input mode p=on / default
A13	pMod2	' bara '			Unit mode: switching units for display
A18	Umin	1,900		V	Constant from basic calibration of the pressure
A19	pumin	0,700			Constant from basic calibration of the pressure
A20	pK	0,5000			Constant from basic calibration of the pressure
A21	pA0	1,0000			Correction value for pressure transmitter
A22	pA1	0,0000			Correction value for pressure transmitter

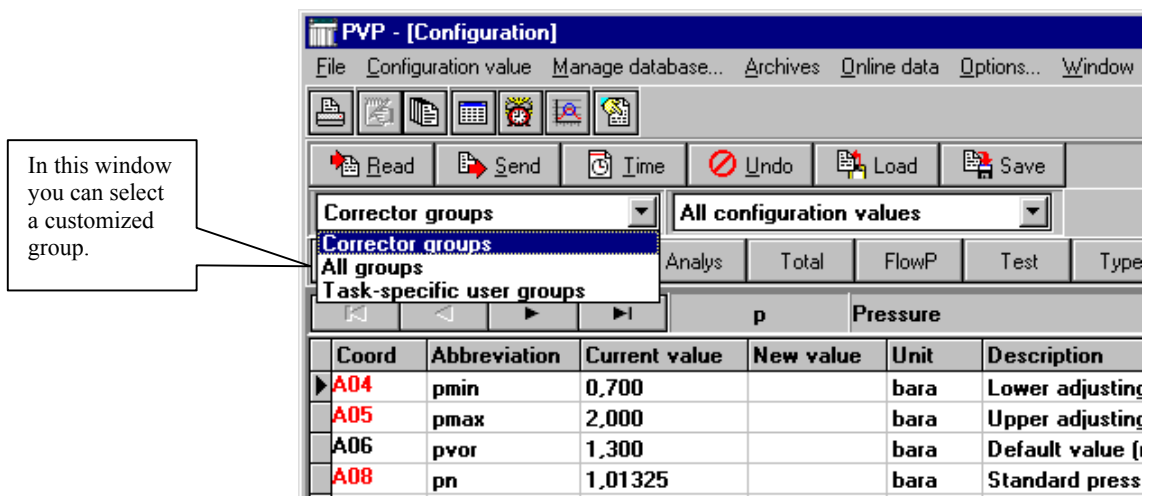
900000    00000000000400    Test station

### 2.3.2 fine task-specific user groups <F6>

Using this function, you can expand the firmly specified groups like pressure, temperature, mode, type, etc. and customize your own groups. The following window shows the example of a customized group including the following elements: measured value for pressure, input voltage of the pressure transducer and measured value for temperature.



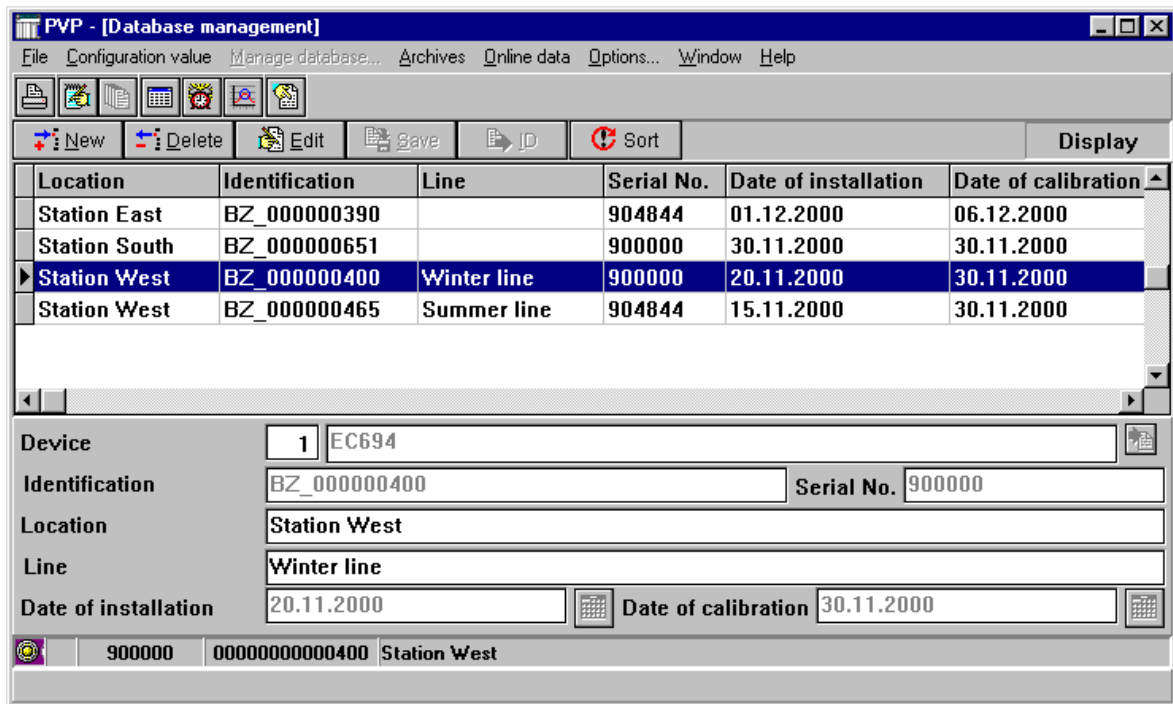
From the group selection list, select TASK-SPECIFIC USER GROUPS to display customized groups.



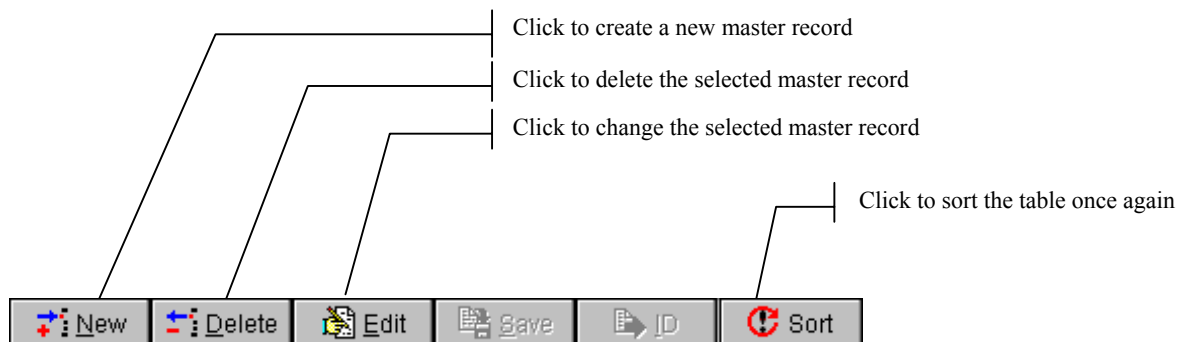
## 2.4 Menu: Database/Manage database... <F7>

This function is of major importance for assigning data to devices. PVP requires what is called a master record describing a specific device in order to be able to unambiguously assign data and configuration values to such device. A master record comprises at least the serial number and the identification of a device.

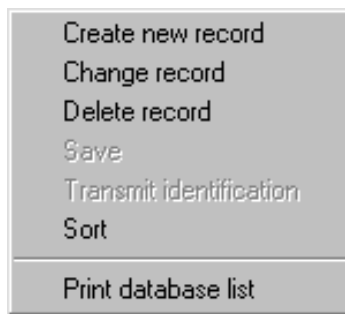
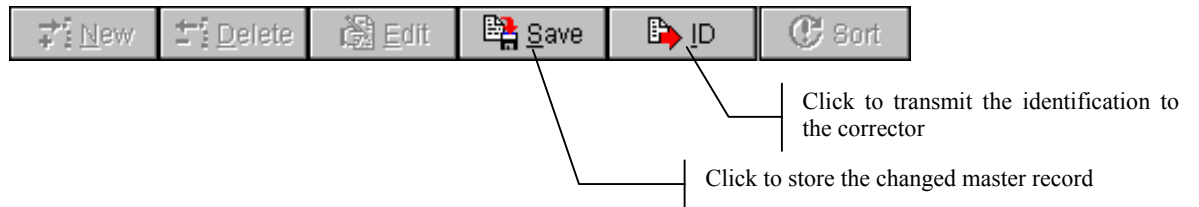
For further information, see chapter “3.1 Database/Manage database...” on page 32.



### Description of the function buttons:



### Enabled function buttons in the change mode



Right-click to open a pop-up menu where you can activate functions also through menu commands.

## 2.5 Menu: ARCHIVES

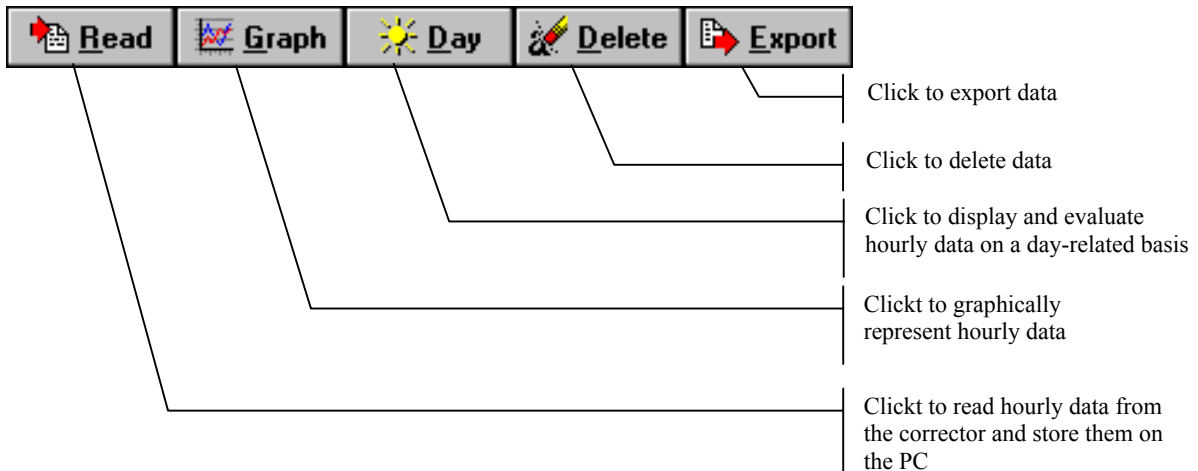
### 2.5.1 Hourly data <F8>

Date	Time	Vb	Vn	Pm	Tm
07.12.2000	19:00:00	1381	5303	4,21	22,36
07.12.2000	20:00:00	1382	5304	4,21	22,38
07.12.2000	21:00:00	1380	5259	4,18	22,34
07.12.2000	22:00:00	1391	5314	4,19	22,33
07.12.2000	23:00:00	1385	5292	4,19	22,30
08.12.2000	00:00:00	1379	5294	4,21	22,31
08.12.2000	01:00:00	1377	5273	4,20	22,32
08.12.2000	02:00:00	1381	5314	4,22	22,30
08.12.2000	03:00:00	1378	5278	4,20	22,25
08.12.2000	04:00:00	1375	5255	4,19	22,21
08.12.2000	05:00:00	1384	5315	4,21	22,18
08.12.2000	06:00:00	1385	5307	4,20	22,15
08.12.2000	07:00:00	1388	5319	4,20	22,14
08.12.2000	08:00:00	1386	5299	4,19	22,12

900000    00000000000400    Test station

The hourly data stored are read out and displayed. You can read out the hourly data archive completely either for a defined period or automatically. In the event of reading out data automatically, the data stored on the PC are supplemented automatically up to the current time. Hourly data can be viewed in tabular form or as graphics and captured (daily logs). Furthermore, hourly data can be exported to a text file. The data structure of the exported text file has been chosen in such a way that it allows the data to be read in directly to a spreadsheet program (e.g. Excel). The export directory can be specified (OPTIONS button). The filename will be assigned automatically. For further information, see chapter “3.4 Hourly data” on page 43.

Description of the function buttons:



## Navigation aids



Click to jump to the end of data (last hourly value stored).

Click to page one day backwards or forwards

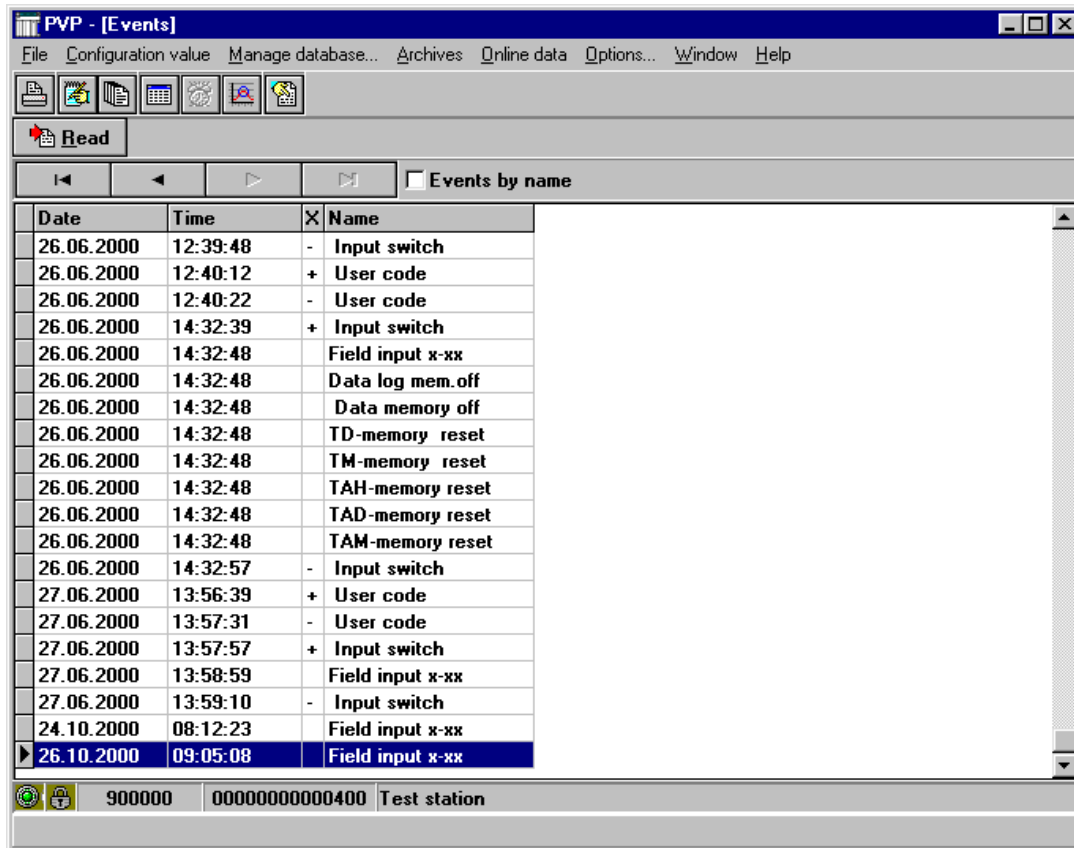
Click to jump to the start of data (first hourly value stored)

Click to jump to any date within the data stored.

**Please note:** A 0-hour value must be stored for the day to be found, otherwise the program will jump to the end of data.

## 2.5.2 Events <F9>

The event messages stored are read out and displayed. All messages stored within the corrector are read out in each event.



The events are completely read out from the corrector and stored within the PC.



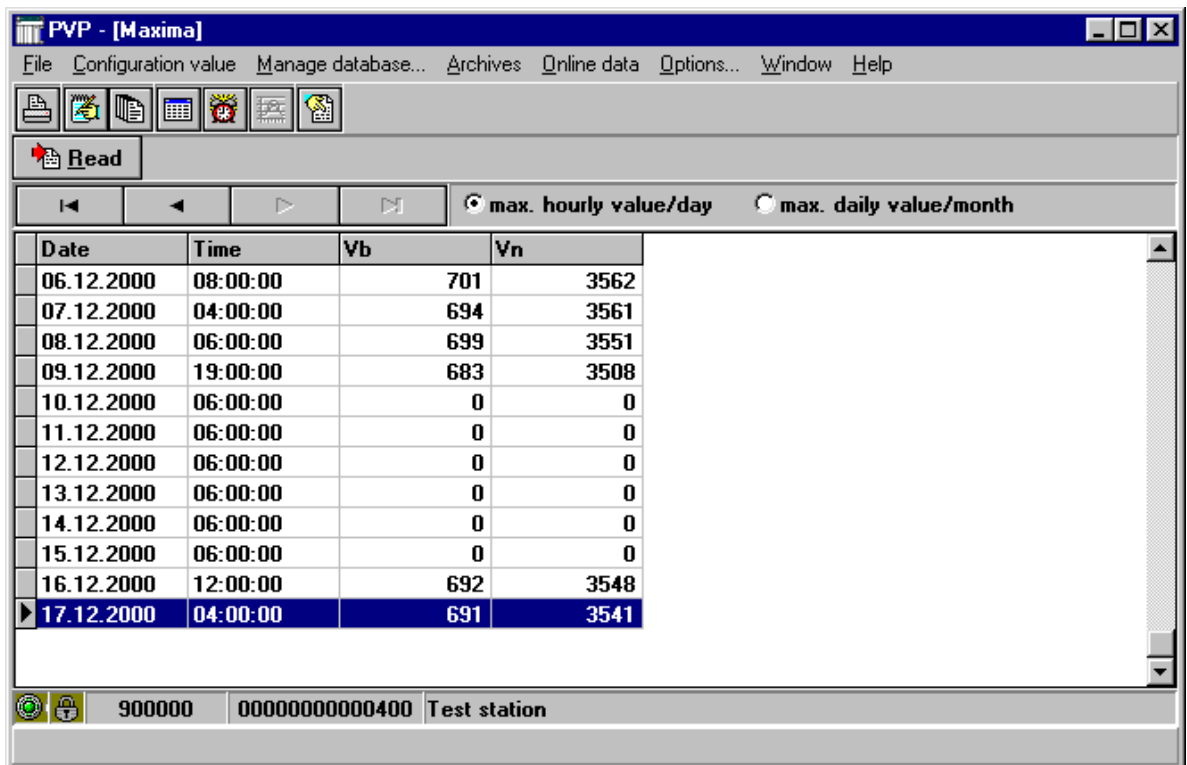
The events are displayed chronologically.



The events are displayed by number.

### 2.5.3 Maxima <F10>

The stored maximum hourly data per day or month are read out and displayed. All values stored within the corrector are read out in each event. You can select either daily or monthly data for display.



All maxima stored in the corrector are read and stored within the PC.



The maximum hourly data per day are displayed.



The maximum daily values per month are displayed.

## 2.6 Menu: Online data <F11>

With this program option, you can display live any data elements from the corrector. You can define the values to be displayed. In the state in which PVP is delivered, the current time and the totalizers for the volume at measurement conditions and the volume at base conditions are displayed. First you must read out the configuration values from the corrector before you change these values. Otherwise the selection list will be empty. Click the STOP button to make changes in the online data list.

Coor	Value	Unit	Abbreviation	Brief description
A00	0,997	bara	p	Meßwert Druck (Absolutdruck)
F00	23,90	oC	t	Meßwert Gastemperatur
H00	12345775,2	m3	Vn	Hauptzählwerk (Normvolumen, Energie oder Masse)
H02	18300092,0	m3	Vb	Hauptzählwerk Betriebsvolumen korrigiert
H10	1,0	m3/l	O1sf	Scaling factor for output contact 1
N01	16:04:14		Zeit	Aktuelle Uhrzeit
N02	18.12.2000		Datum	Aktuelles Datum

904844    00000000000400    Test station



Click to stop online data transmission and to change the online data list.

### Online data display has been stopped:



Click to delete the selected value from the table

Click to insert the new value into the table

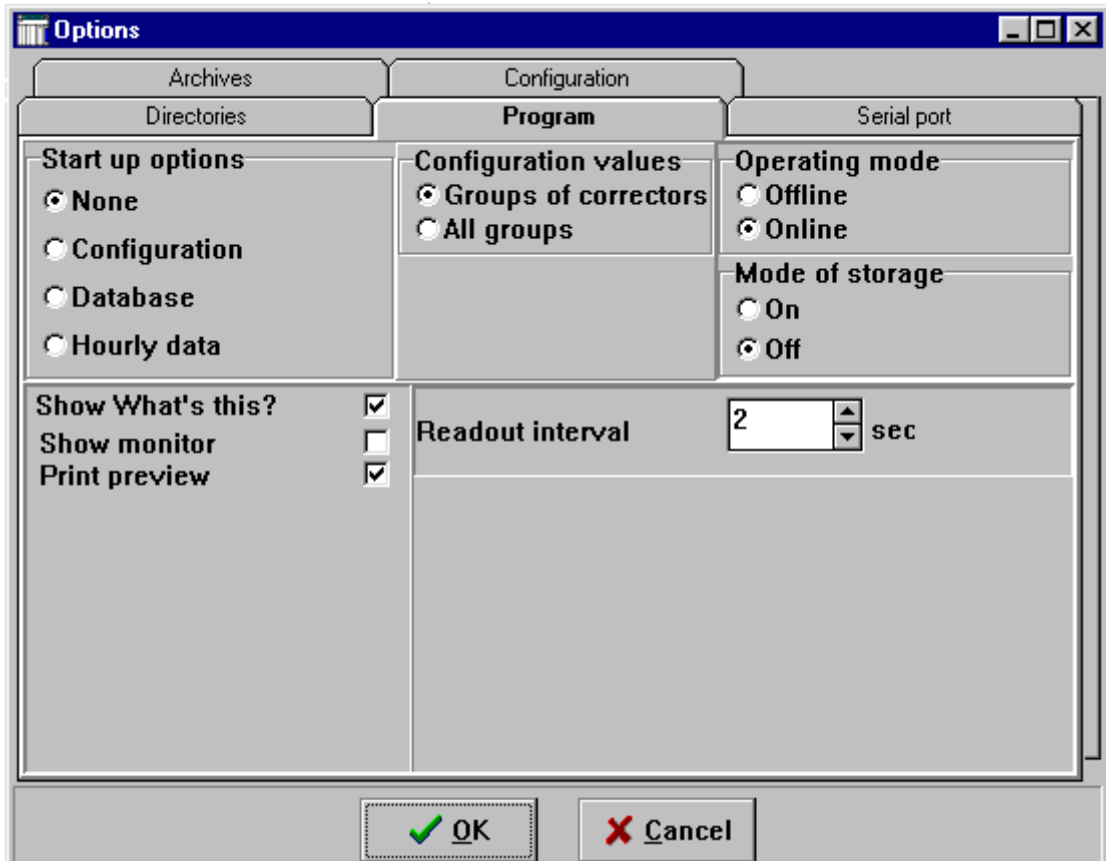
Click to restart the transmission



If you want to stop online data display, just activate another function!

## 2.7 Menu: Options <F12>

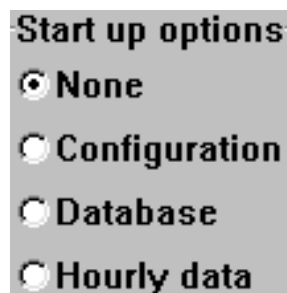
The program is installed with defined presets. You can change these settings by means of the OPTIONS program function on the menu bar. The menu option is protected by a password. If the password protection has been enabled, you must enter the password before you can change any settings. For further information, see chapter 1.6 on page 5.



### 2.7.1 Tab: Program

On this tab, the most important options required for program execution are shown:

#### Startup options:



By means of these selections, you can decide which program function PVP will activate automatically after starting. If NONE has been selected, PVP will show an empty window and wait until the user activates a program function. The configuration, database management or hourly data display functions can be started automatically.

### Configuration values

**Configuration values**  
 Groups of correctors  
 All groups

Depending on this setting, the configuration values of the correctors are displayed either linearly or in groups of correctors when configuration is started. The selection made here applies to the start of configuration only. In the Configuration window, the selection can be changed at any time.

### Operating mode

**Operating mode**  
 Offline  
 Online

For further information, see chapter 1.10.2 on page 10.

### Mode of storage

**Mode of storage**  
 On  
 Off

For further information, see chapter 1.10.3 on page 11.

### Further program options

**Show What's this?**

If you hold the mouse pointer over a program button, the function of this button will be briefly explained in a yellow box below the pointer. You can disable the display of the box here. But the explanatory text will continue to be displayed in the help bar at the bottom of the window.

**Show monitor**

For further information, see chapter 1.12 on page 11.

**Print preview**

If this option has been selected, a preview is shown prior to each printing. No preview is shown for multi-page daily logs or for graphics.

### Readout interval

**Readout interval**    sec

Interval which is used to read out the identification, state of the calibration switch, etc. from the corrector in online mode. The default setting is 2 seconds.

## 2.7.2 Tab: Archives

### Decimal places

<b>p decimal places</b>	<input type="text" value="2"/>
<b>T decimal places</b>	<input type="text" value="2"/>

With this option, you can define the number of decimal places to be used for representing the pressure  $p$  and the temperature  $T$  in the display of hourly data.

### Disturbing quantities

<input type="checkbox"/> <b>Disturbing quantities [VD]</b>
<input type="checkbox"/> <b>Sum [V+VD]</b>

Check the  $V_D$  box if you want to display the disturbing quantities in the hourly data tables. Check the  $V+V_D$  box if you want to display the sum of undisturbed and disturbed quantities.

### Last hour of day

<b>Last hour of day</b>	<input type="text" value="6"/>
-------------------------	--------------------------------

Gas billing is based on what is called gas day. In many cases, the passing of the gas day does not coincide with the passing of the astronomical day (0 hour). In Germany, the most frequently used last hour of the gas day is 6 a.m. The time set here for the last hour of the gas day is used for evaluating hourly data.

## 2.7.3 Tab: Serial port

### Setting the appropriate serial port

<b>Port</b>
<input type="radio"/> <b>None</b>
<input checked="" type="radio"/> <b>COM1</b>
<input type="radio"/> <b>COM2</b>
<input type="radio"/> <b>COM3</b>
<input type="radio"/> <b>COM4</b>

For online operation with the corrector, a serial data connection is required between the corrector and the PC. This connection can be established by using one of the customary PC serial ports COM1 to COM4. You can select the serial port to be used by means of this program option. In this example, the COM2 serial port has been selected.


PVP is delivered with the NONE option selected in order to avoid conflicts with devices which have already been connected to the PC.



Make sure that the PC's serial port selected is not required for another task, e.g. to connect a mouse.

### Data transmission rate

<b>bit/s</b>
<input type="text" value="9600"/>

The data transmission rate depends on the interface of the corrector used. The optical interface is usually set to a transmission rate of 9600 bit/s. If another transmission rate is required, click  and select the appropriate value from the list shown.

## 2.7.4 Tab: Directories


### Data directory

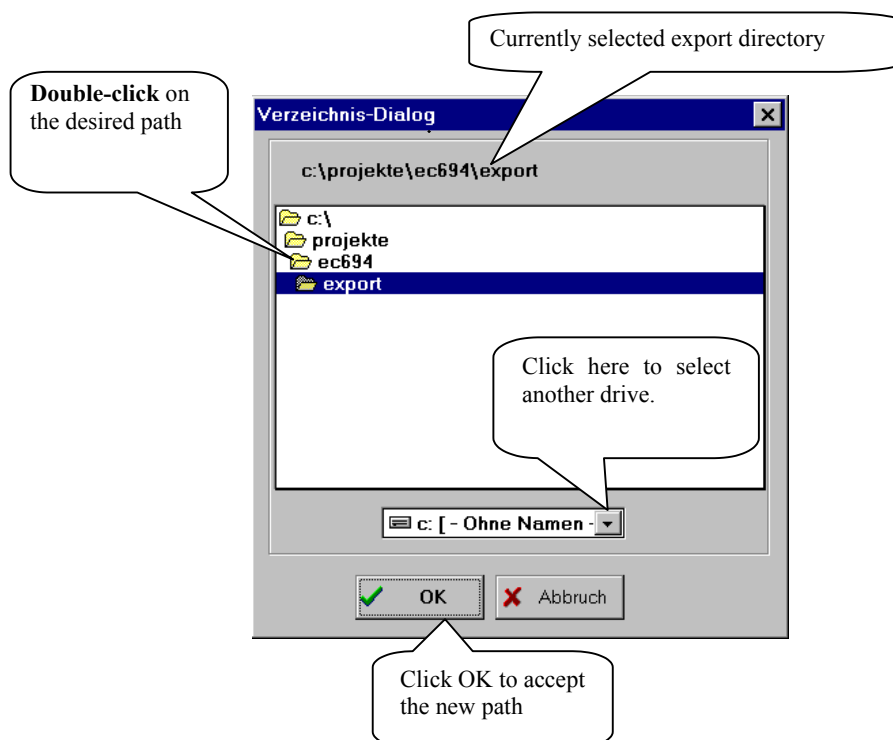
**Database path**  The data tables, in particular the master data, the data elements lists and the archive data read out from the corrector are stored in the ... \DET directory . A list of these files with a short description of each file is shown in section 1.7 on page 6.

The installation program always creates the **DET** directory below the base directory. It is only shown for information here, and the setting cannot be changed.

### Export directory

**Export directory**  The hourly data can be exported to ASCII files. A file is generated for each measuring point which is stored in the export directory. The installation program creates an EXPORT directory below the base directory which is used as a presetting.

But you can specify any other directory as export directory. To do this, click . Then the following dialog box will open where you can specify a new path.



## 2.7.5 Tab: Configuration

- Change configuration value**
- Set groups**
- Database management**
- Display and read hourly data**
- Display and read maxima**
- Display and reads events**
- Online data**

With this option you can customize your menu. Program functions which are not checked on this tab are also disabled on the menu. Click the left mouse button to enable or disable these functions. The changes will become effective after you have restarted the program. In this connection, see also section “Configuring the menu” on page 11.

## 3 Working with PVP

### 3.1 Database/Manage database...

#### 3.1.1 General

Device data are required to manage data from several correctors with PVP. For each device, a master record must be created. The link between the device master record and the corrector is the identification.

The identification is a configuration value of the corrector (N19) and is used as an access key in the device database. The identification must be unambiguous within a billing system. The user is responsible for ensuring such unambiguity. In edit mode, the identification can be changed! An identification cannot be stored twice even if you create another master record.

For managing device master records, PVP provides a main function which can be started as follows:

Menu: Database/Manage database...

Function key: F7

Button: 



The database management function can only be activated if the mode of storage has been set to “On”!



### 3.1.2 Creating a new device master record

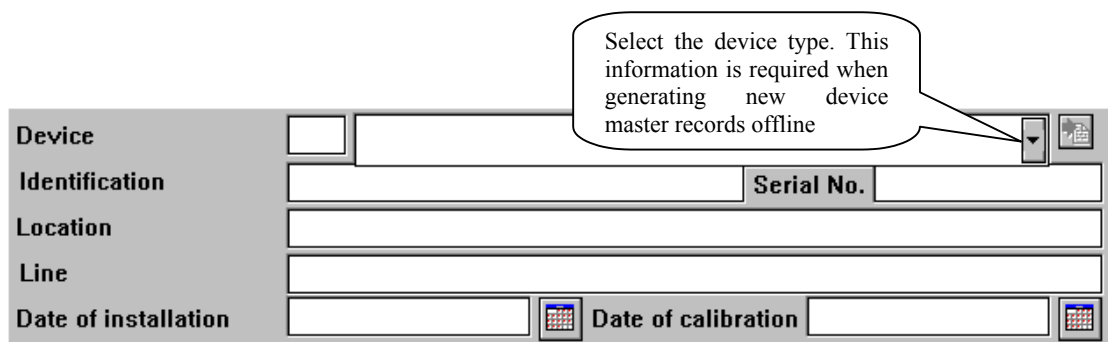
A device master record can be created either offline or online. It is recommended to create device master records offline because here the procedure is always the same, easier and independent of already existing device master records as well as independent of identifications in the corrector. The following text describes how you should proceed to create master records in both operating modes.

In online mode, a new master record can only be created if there is a connection to the corrector. If you want to create a new master record without being connected to the corrector, you must select the offline mode.

If the message “Transmission error!” appears during the transfer of the identification, then start the transfer again.

#### Offline

1. Click  .
2. Select the device type.
3. Type the identification.
4. Type the serial number.
5. Type the location and the line.
6. Type the dates of installation and calibration.
7. Click  .






Select the device type. This information is required when generating new device master records offline

<b>Device</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>Identification</b>	<input type="text"/>	<b>Serial No.</b>	<input type="text"/>
<b>Location</b>	<input type="text"/>		
<b>Line</b>	<input type="text"/>		
<b>Date of installation</b>	<input type="text"/>	<b>Date of calibration</b>	<input type="text"/>






## Online

Online the procedure depends on whether there is already an identification saved in the corrector and whether a device master record exists for this identification.



### a. No identification is saved in the corrector or there is an identification saved in the corrector but without a device master record.

1. Click  and the device data are read.
2. Click into the column “Location” in the table.
3. Click “Yes” in the appearing dialog box “Save changes?”
4. Click on the new line in the table.
5. Click  .
6. Type the identification, the location, the line and the dates of installation and calibration.
7. Click  : the device master record is saved.

### b. Identification is saved in the corrector and a device master record exists for it.

1. Click  .
2. Click  and the device data are read.
3. Type the location, the line and the dates of installation and calibration.
4. Click  : the identification is transferred.
5. Click  : type new identification (now you can edit the identification).
6. Click  .

### Select a Location and transfer its identification to the corrector (online only)

1. Select a location in the table.
2. Click  .
3. Click  : the identification is transferred.

### 3.1.3 Changing a device master record

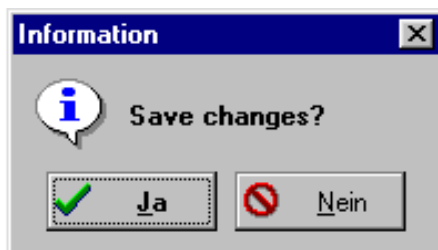
All fields of a device master record can be modified subsequently. This also applies to the identification.

Edit mode can be activated as follows:

- Select the master record in the table.
- Click the EEDIT button or
- right-click on the CHANGE RECORD menu option or
- double-click on the table entry of the master record to be changed.

To quit edit mode, you must proceed as follows:

- Click the SAVE button.
- Right-click.
- Click the table.



If no changes were made during the change session, you will quit change mode without any prompt being displayed. If you have made one or more changes, the dialog box shown here will appear. Click YES to save the changes. Click NO to reject the changes.

### 3.1.4 Sorting device master records

The master records are sorted by the first table column. The sort order can be changed at will. The chosen order will be saved when you quit the device database. You can change the column order by left-clicking on the heading of the column that you want to change. Hold the mouse button depressed and drag the column to the desired position. Then release the mouse.

To sort the table by the new first column, click  .

## 3.2 Configuration

### 3.2.1 General

You can start configuration as follows:

Menu: **C**onfiguration/**C**onfigure...

or

Function key: **F5**


or

Button: 

All configuration values from the corrector can be read, displayed and set. If the program is in the “Off” mode of storage, the data elements will be read automatically when you activate this program function for the first time during a program session. If the program is in the “On” mode of storage, the data elements list stored will be displayed. A blank list will be displayed if no data elements have been read for the corrector connected yet.

If a corrector is connected whose identification has not yet been stored in the device database, the program will jump to the database management function automatically. First you must create a master record for the corrector as described in section 3.1.2 on page 33. Then you must return to configuration and read in the data elements list.

### 3.2.2 Changing configuration values

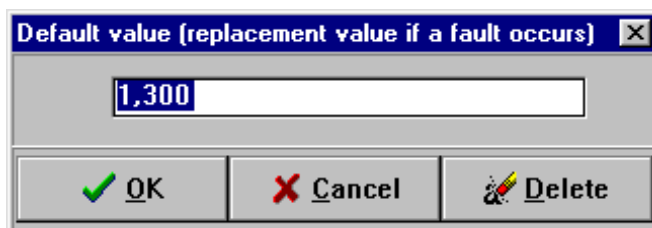
First the current data elements list should be read in before you start to change configuration values within the corrector by clicking  .

To change a configuration value, double-click on the appropriate line.

p Pressure			
Coord	Abbreviation	Current value	New value
A04	pmin	0,700	
A05	pmax	2,000	
A06	pdef	1,300	
A08	pb	1,01325	
A12	pmod1	' On '	

Double-click

An input mask depending on the type of the configuration value will open. Enter the new value into the list and then click the OK button. Click **C**ANCEL if you do not want to make any change. If you want to undo a change which has already been saved in the list, click **D**ELETE.



Default value (replacement value if a fault occurs) [X]

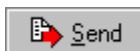
1,300

OK Cancel Delete

First you must make all the necessary changes in the data elements list. The changes will be displayed in the “New value” column of the table.



Please note that if you enter a new value in the data elements list, this will not cause the change to be made within the corrector!



When all changes have been made in the data elements list, the configuration values can be transmitted to the corrector. To do this, click the SAVE button.



When changing configuration values, you must comply with the write authorization in any event. For further information, see chapter 3.2.5 on page 28.

Special features include setting the identification (see section 3.2.3) and the date and time.

### 3.2.3 Changing identification

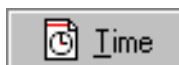
The easiest way to set the device identification is if the mode of storage has been set to “Off”. In this operating mode, you can make your setting directly through the “identification” value (N19).

The new identification is entered into the list of configuration values and transmitted to the corrector. Since the mode of storage is “Off”, this change does not have any effect on PVP’s database management function.

Setting the identification is a little bit more complicated if the mode of storage has been set to “On”. In this case, the program must manage the identification within the device and within PVP’s database in parallel. If the mode of storage used is “On”, a master record for this identification has been inevitably created in PVP. To change the identification, you must proceed as follows:

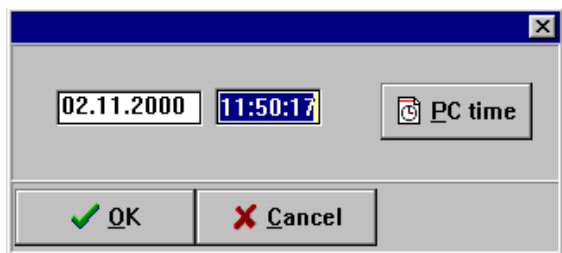
1. Switch to the database management function. The program will automatically select the master record with the device identification.
2. Click the EDIT button to activate change mode. Type the new identification.
3. Click the ID button and confirm the transmission to the corrector with “Yes”. The new identification will be transmitted to the corrector and at the same time changed in the master record, provided the transmission was successful.

### 3.2.4 Setting date and time



Click this button to set the date and time within the corrector.

The following dialog will open:



Type the date and time to which you want to set the corrector into the appropriate fields and click the OK button. The date and time will now be directly transmitted to the corrector. But if you do not want the time within the corrector to be changed, click CANCEL. The setting dialog will be terminated without any transmission performed. If you want to fill the input fields with the date and time of the PC, click PC TIME.

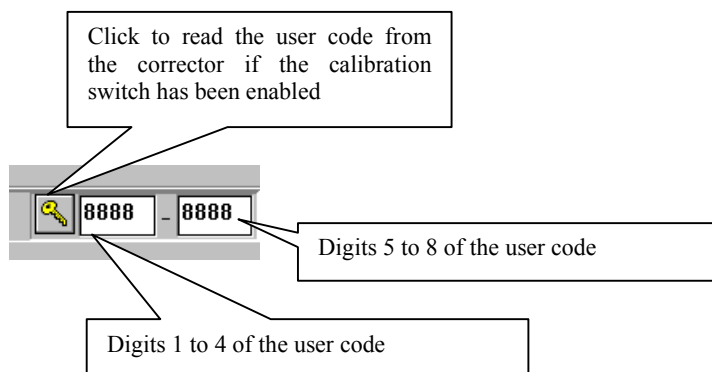
### 3.2.5 Authorization to change configuration values / User code / Calibration switch

In the list of configuration values, the coordinates of the values which can be modified if the user code has been disabled are shown in black, while the coordinates of the values which can only be modified if the calibration switch has been enabled are shown in red.

If you want to modify a configuration value protected by the user code, you must type the user code in the code dialog. The user code will not show when you type it. Instead of the user code, an asterisk ("\*") is displayed for each character. Set the mouse pointer on the two input fields and overwrite "\*\*\*\*\*".

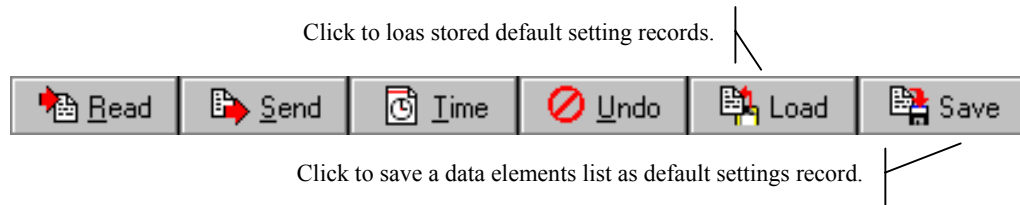
If the corrector has been set to the default code (9999-9999), typing the user code can be dispensed with. If the input field of the user code is left empty, the program will interpret this as the default code.

If the calibration switch is enabled, all configuration values can be set without limitation using PVP. Click the key icon in the code dialog to read the user code from the corrector. Then the user code will be shown on the right of the key icon in two separate fields in the code dialog. After the calibration switch has been disabled, the user code will remain visible until another function is selected.



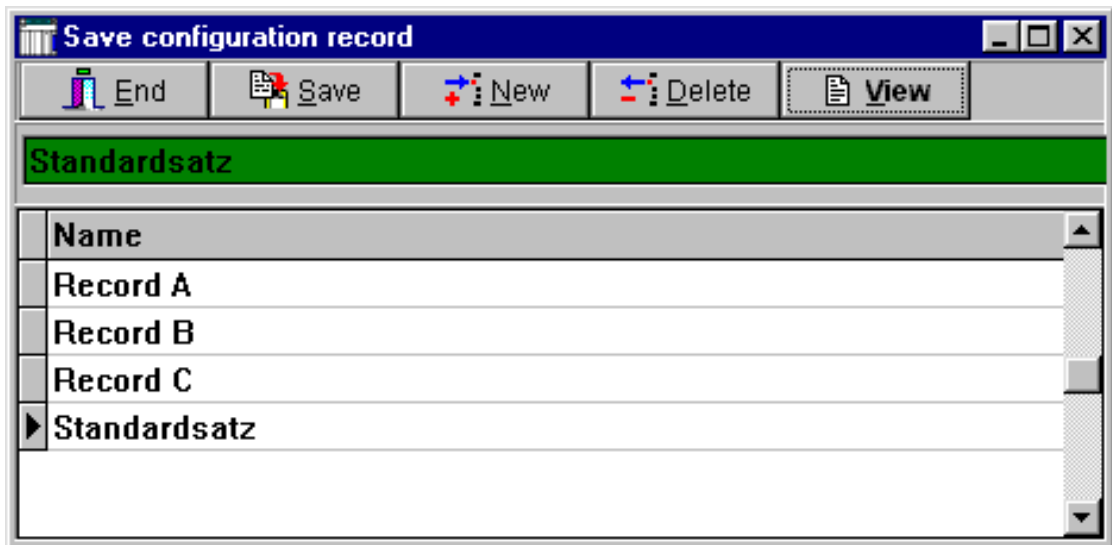
### 3.2.6 Working with default settings lists

PVP can manage any number of default settings lists. These lists can be stored without any reference to the device concerned with a freely selectable name. You can manage default settings lists in the configuration dialog using the LOAD and SAVE function buttons.



#### 3.2.6.1 Storing a default settings record

To create a new list of default settings, you must first define the list with a corrector being connected. For this purpose, you must set PVP's mode of storage to "Off", connect a corrector to the PC and start configuration. First the configuration record from the corrector is read out and displayed. Then you must modify the configuration record in the desired way and transmit these changes to the corrector. If the setting has been completed, the configuration record can be saved. To do this, click the SAVE button. The following dialog will open:



In this example, three default settings records have already been stored. You can save the configuration record either with an existing name or a new name. If you want to save the record with an existing name, select the name in the table and click the SAVE button. After a prompt, the configuration record will be saved. An old configuration record which may have existed will be overwritten.

If you want to save the configuration record with a new name, you must proceed as follows: Click the NEW switch and type any new name for the configuration record. Complete your input by pressing the ↵ key (Enter key). You can also complete your input by clicking with the mouse anywhere outside the input field. The new name will appear in the table in alphabetical order. Select the new name and then click SAVE.

Use the Esc key to cancel the entry of a new name.

You can delete the name of a configuration record and the associated configuration record if you select the name in the table and click the DELETE button.

To view a configuration record stored, you must select the name in the table and click the VIEW button.

### 3.2.6.2 Loading a default settings record

First you must read the configuration record from the corrector. Then click the LOAD function button. The list of default settings records stored will be displayed. Select the desired configuration record in the list and then click the LOAD button.

A prompt is provided to which you must reply with Yes and then the selected default settings record is loaded. The existing corrector record is not simply overwritten but configuration values diverging from the default settings record are entered into the NEW VALUE column of the corrector's list of configuration values. You can now change the configuration values individually. Then you must transmit the changes to the corrector (SEND button).

The configuration value N19 Identification is not written by the default settings record. The identification must be specified manually in each case. If you are working in the "Off" mode of storage, you can directly enter the identification when you adjust the configuration values individually. Then the identification must be set through the database management function in the "On" mode of storage.

### 3.2.7 Change journal, undo function

All changes of configuration values are stored in the change journal with date, time and old and new values. The change journal can also be used to undo changes of configuration values.

To display the change journal, click the UNDO button.



The following dialog will open where the changes of configuration values are shown in a table:

**Date field is activated:** Entries from the set date are shown.

**Date field is not activated:** All entries are shown.

Date	Time	Coord	Old value	New value	Abbreviation
25.11.1999	11:56:34	A06	1,300	1,000	pvor
25.11.1999	11:56:40	A22	0,0000	-0,006	pA1
25.11.1999	11:56:46	M02	930000	934788	pNr.
25.11.1999	11:56:52	M06	960000	000008	tNr.
25.11.1999	11:56:57	M27	900000	904788	R-Nr.
25.11.1999	11:57:03	O15	0,9860	0,9856	tkor0
25.11.1999	11:57:09	O16	0,0000	3,5980	tkor1
25.11.1999	11:57:14	O17	5,0000	4,9865	Spg-P
25.11.1999	11:57:20	O18	432	438	Spg<
25.11.1999	11:57:25	O19	3887	3943	Spg>

### Undoing changes of configuration values

Select the change which you want to undo in the table<sup>1</sup> and click the SEND button. The old value will be transmitted to the corrector without any prompt appearing previously! The hourglass will be displayed during transmission. The change will also result in a new entry into the journal file.

### Deleting journal entries

You can delete old journal entries. Select the first record which is not to be deleted. Then click the DELETE button. All entries up to the selected entry will be deleted after a prompt. **Please note that in this case even invisible entries will be deleted if the display has been limited by means of the date field.**

<sup>1</sup> Click the appropriate line. The selected line will be highlighted in blue.

### 3.3 *Managing archive data on the PC*

Using PVP, you can access the following corrector archives at the moment:

- Data-logging memory (hourly data)
- Hourly and daily maxima
- Events

You must transmit the archive data from the corrector before you can view them with PVP. For the a.m. three types of data, there are program functions available which read out the archives and store, view and print the data on the PC.

When reading the maxima and the events, all data stored within the corrector are always read out. The data already stored on the PC for the corrector concerned will be overwritten. After the reading process, there is always an exact copy of the current corrector archives available on the PC. For further information on reading and visualizing events, see sections 2.5.2 and 2.5.3 on pages 24 ff.

This is different, however, when reading hourly data. In this case, the data already archived on the PC will not be overwritten, but the existing data will be supplemented. If the reading process is performed automatically, the data are always read out from the date of the data record which was last stored on the PC up to the current date. In this way it is ensured that all hourly data are completely stored on the PC. For further information on working with hourly data, see sections 3.4 on pages 43 ff.

The archived data can be viewed online or offline. If there is a connection to a corrector in online mode, the archive data of this corrector can be viewed only. If you try to switch to another corrector via the database management function, PVP will return automatically to the data record of the corrector connected.

In order to view the archive data of any corrector, you must interrupt the connection to the corrector connected or set the interface mode to “Offline”. Then you must first select the measuring point whose data you want to view in the database. Afterwards you can activate the various visualization functions for this measuring point. The data for the measuring point selected will be displayed automatically in each event. The status bar at the bottom of the window will constantly show the identification and the name of the measuring point selected.

If the mode of storage has been set to “Off”, it is not possible to access the archive data stored within the PC. Neither is it possible to access the data of the corrector currently connected to the PC. If you want to view corrector data in this operating mode, you must read out the archives of the corrector. These data can be viewed during the current program session. Any data which were possibly read for this corrector in the “On” mode of storage will remain unchanged on the PC.

### 3.4 Hourly data

#### 3.4.1 General

Using the Hourly Data PVP main function, hourly data can be read out from the archive of the corrector and stored on the PC. Furthermore, the hourly data stored can be viewed in tabular form and printed and exported to an ASCII file.

You can start configuration as follows:

Menu: Archives/Hourly data...

or

Function key: **F8**

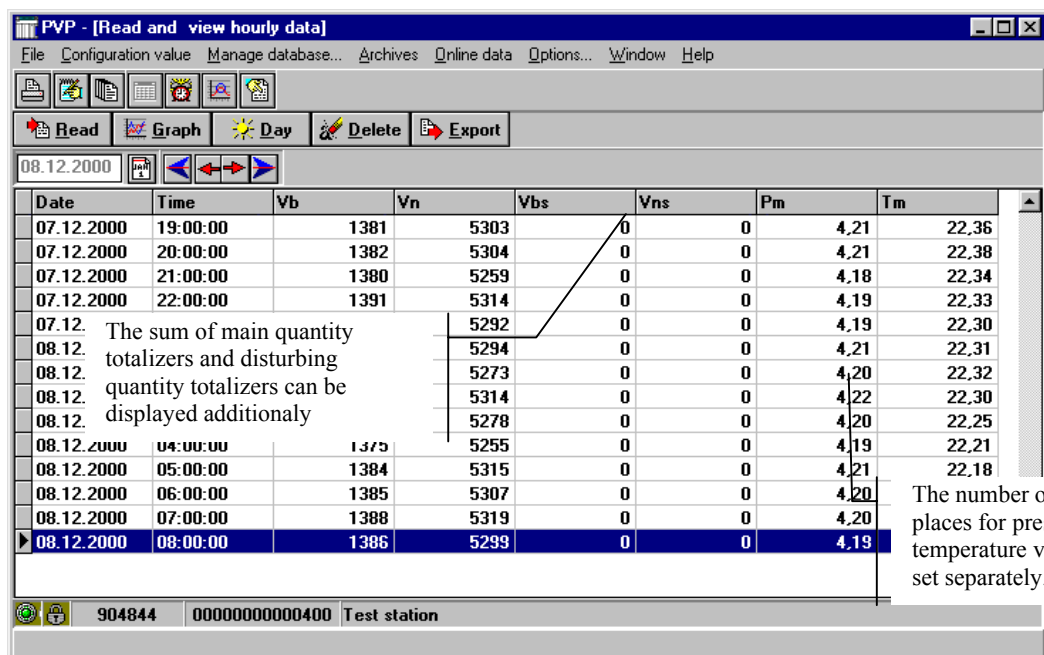
or

Button: 

If the mode of storage has been set to “Off”, the reading operation is automatically started immediately after the hourly data function has been activated, provided that this function has been activated for the first time in the current PVP session. Otherwise or if the mode of storage has been set to “On”, archived data will be displayed.

#### 3.4.2 Viewing and printing hourly data

The hourly data stored are shown in tabular form in the following dialog. The  $V_m$  (volume at measurement conditions),  $V_b$  (volume at base conditions),  $P$  (pressure) and  $T$  (temperature) columns are always displayed. In addition, the disturbing quantities for the volume at measurement conditions  $V_{mD}$  and the volume at base conditions  $V_{bD}$  as well as the sum of  $V_m + V_{mD} = V_{mSum}$  and the sum of  $V_b + V_{bD} = V_{bSum}$  can be displayed. Activate the columns in the OPTIONS dialog on the ARCHIVES tab. Pressure and temperature values can be shown with decimal places. The number of decimal places can be set in the OPTIONS dialog on the ARCHIVES tab. For further information, see section 2.7.2 on page 29.



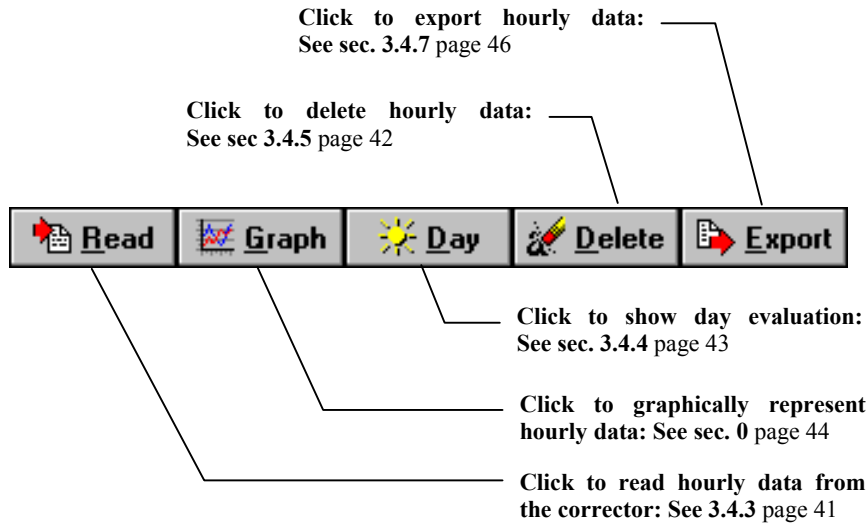
Date	Time	Vb	Vn	Vbs	Vns	Pm	Tm
07.12.2000	19:00:00	1381	5303	0	0	4,21	22,36
07.12.2000	20:00:00	1382	5304	0	0	4,21	22,38
07.12.2000	21:00:00	1380	5259	0	0	4,18	22,34
07.12.2000	22:00:00	1391	5314	0	0	4,19	22,33
07.12.			5292	0	0	4,19	22,30
08.12.			5294	0	0	4,21	22,31
08.12.			5273	0	0	4,20	22,32
08.12.			5314	0	0	4,22	22,30
08.12.			5278	0	0	4,20	22,25
08.12.2000	04:00:00	1375	5255	0	0	4,19	22,21
08.12.2000	05:00:00	1384	5315	0	0	4,21	22,18
08.12.2000	06:00:00	1385	5307	0	0	4,20	
08.12.2000	07:00:00	1388	5319	0	0	4,20	
08.12.2000	08:00:00	1386	5299	0	0	4,19	

The sum of main quantity totalizers and disturbing quantity totalizers can be displayed additionally

904844    0000000000400    Test station

The number of decimal places for pressure and temperature values can be set separately.

## Function buttons



## Printing the day evaluation

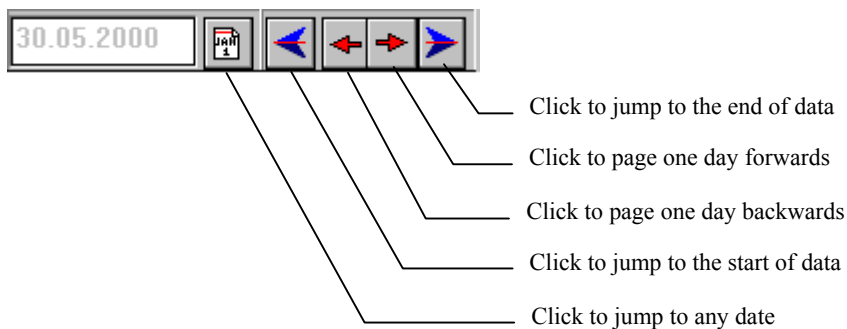


Click this button and a dialog will first appear where you can select the time range for printing the day evaluation. The following options are available for selection:

- Current day:** The day evaluation for the day set will be printed.
- From:** The day evaluations from the date set will be printed.
- To:** The day evaluations up to the date set will be printed.
- Range:** The day evaluations for the time range set will be printed.
- All:** The day evaluations for all data stored will be printed.

The preset date will be taken from the line selected in the hourly data table. The print preview will be shown for the current day if the print preview has been activated in the OPTIONS dialog. If several day evaluations are printed at the same time, the preview is not shown.

## Data navigator

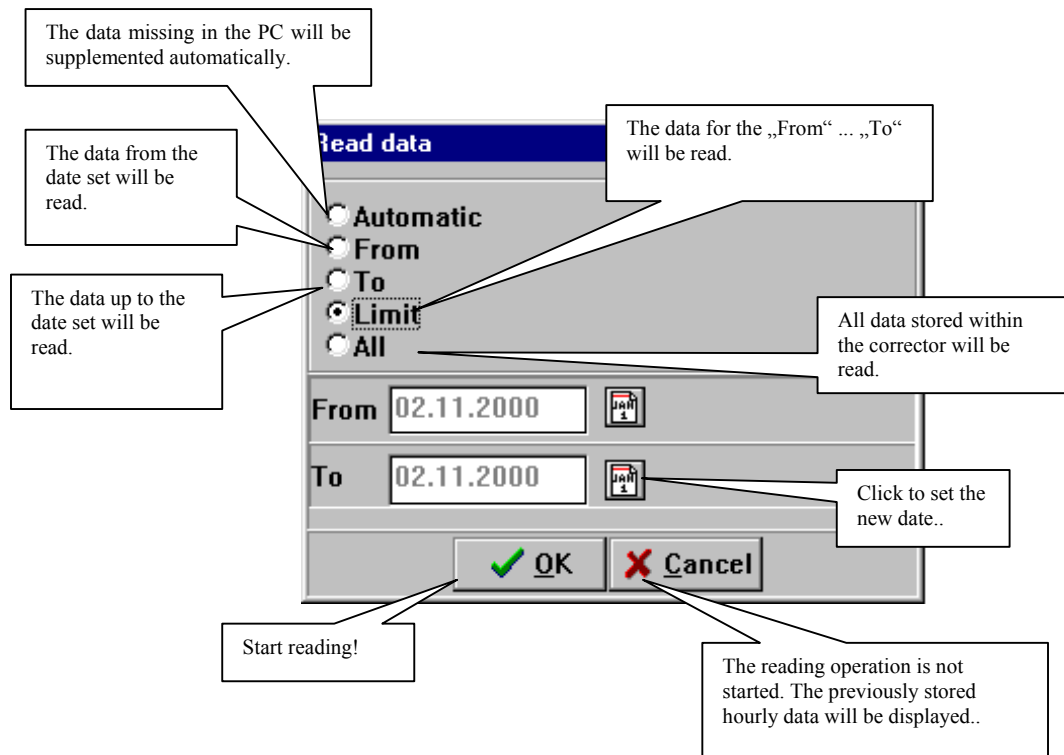


### 3.4.3 Reading out hourly data

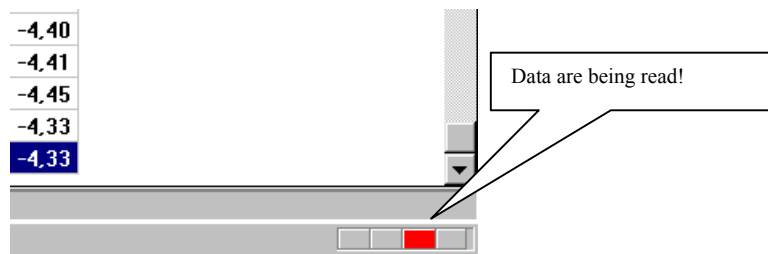


Click the button: The following dialog will be displayed.

If the button is not enabled, there is no connection to the corrector.



During the reading operation, the hourglass will be displayed and a red rectangle will be moving in the right bottom corner of the window.



As soon as the data have been read out from the corrector to the PC, they are checked and written into the database table. Depending on the data volume and the computer speed, this operation can take from a few seconds up to several minutes. During this time, the red rectangle will continue to be displayed. But the rectangle will no longer move.

If the monitor has been switched on, you can track the reading operation on your screen (see page 11).

### 3.4.4 Showing the day evaluation



**Day**

With this program function, you can view hourly data by day. Starting from the date set in the tabular hourly data display, the hourly data are displayed and evaluated for one day. Day sums are formed for the volume channels and hourly means are calculated for the pressure and temperature channels. The minimum and maximum hourly data are determined for all channels.

Click to return to the tabular display.

Click to scroll the data forwards or backwards

Current date

h	Vb	Vn	Pm	Tm
21	1380	5259	4,18	22,34
22	1391	5314	4,19	22,33
23	1385	5292	4,19	22,30
00	1379	5294	4,21	22,31
01	1377	5273	4,20	22,32
02	1381	5314	4,22	22,30
03	1378	5278	4,20	22,25
04	1375	5255	4,19	22,21
05	1384	5315	4,21	22,18
06	1385	5307	4,20	22,15
<b>Sum</b>	<b>33156</b>	<b>126962</b>	<b>4,19</b>	<b>22,28</b>
<b>Max</b>	<b>1391</b>	<b>5315</b>	<b>4,22</b>	<b>22,42</b>
<b>h</b>	<b>22h</b>	<b>05h</b>	<b>02h</b>	<b>16h</b>
<b>Min</b>	<b>1375</b>	<b>5255</b>	<b>4,16</b>	<b>22,15</b>
<b>h</b>	<b>04h</b>	<b>04h</b>	<b>17h</b>	<b>06h</b>

904844    00000000000400    Test station

### 3.4.5 Deleting hourly data



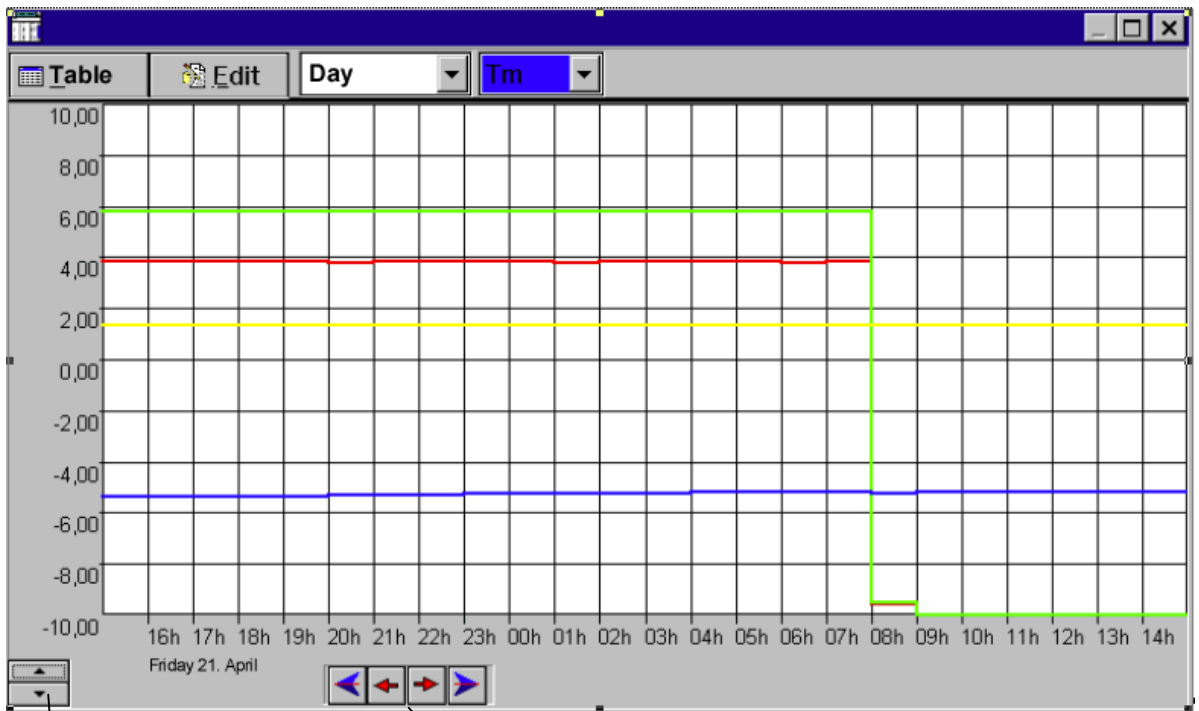
**Delete**

The hourly data archive can theoretically grow to any size. This will result in big tables which are difficult to handle. Therefore, it is advisable to delete old hourly data which are no longer required. Activate the delete function and select the delete TO option. Set the date up to which you want the hourly data to be deleted and then click OK.

### 3.4.6 Graphically representing hourly data

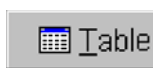


Hourly data can be represented in the form of line graphs. Select the hourly value where the graph is to begin and then click the GRAPH button. The following picture will be shown. The representation starts at the hourly value selected.



Click to switch the caption of the value axis.      Navigation buttons


Use the navigation buttons to shift the representation in time within the hourly data stored.



Click the TABLE button to return to the tabular representation. The table section corresponding to the current graph will be selected automatically.

#### Zoom



For the graphical representation of hourly data, there are four zoom levels available: day, week, month and 3 months. Click  to change the zoom level.

#### Value axis



The value axis can be provided with the caption for one curve, i.e. channel, only. You can set the channel to be currently used. To do this, use the buttons located below the value axis or the selection box in the function button bar. **The colour of the text box within the selection box corresponds to the selected colour of the curve.**

## Formatting curves

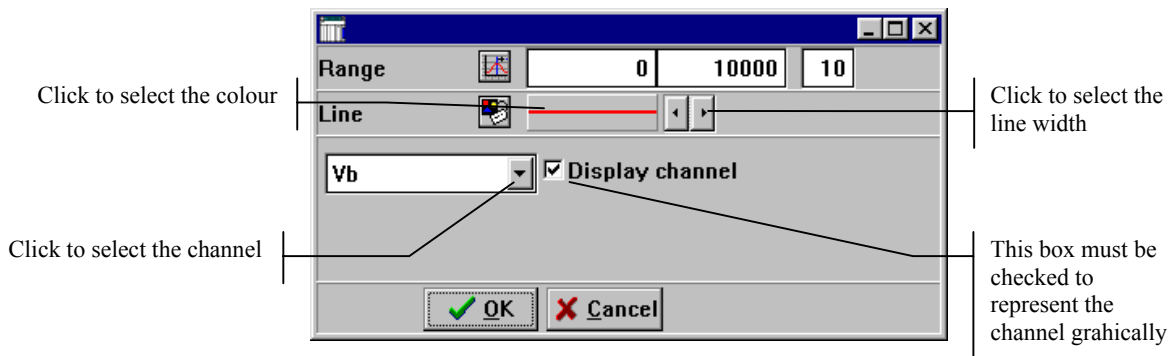


You must format the graph to achieve an optimum graphical representation of hourly data. Click the EDIT button and a dialog will open where you can define the format for each channel. Apart from the  $V_m$ ,  $V_b$ ,  $V_{mD}$ ,  $V_{bD}$ ,  $p$  and  $T$  values read out from the corrector, the sum of main quantities and disturbing quantities can be represented graphically.

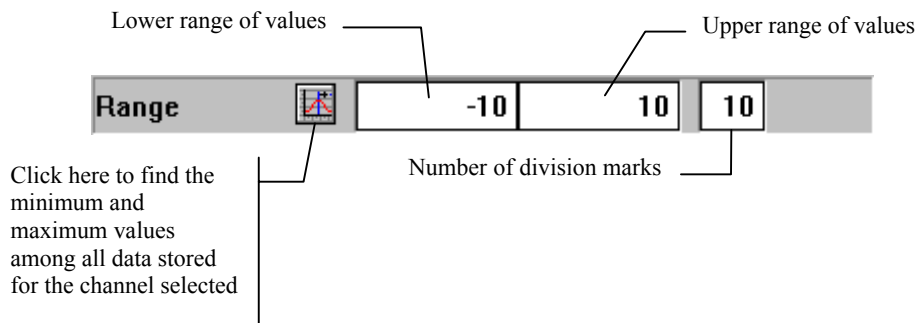
First you must select the channel to be formatted. The channel assigned to the current caption of the value axis is preset.

The following settings must be made for each channel:

- Show channel yes/no
- Lower and upper ranges of values
- Number of division marks for the value axis
- Colour and line width of the curve



## Setting the ranges of values



### 3.4.7 Exporting hourly data

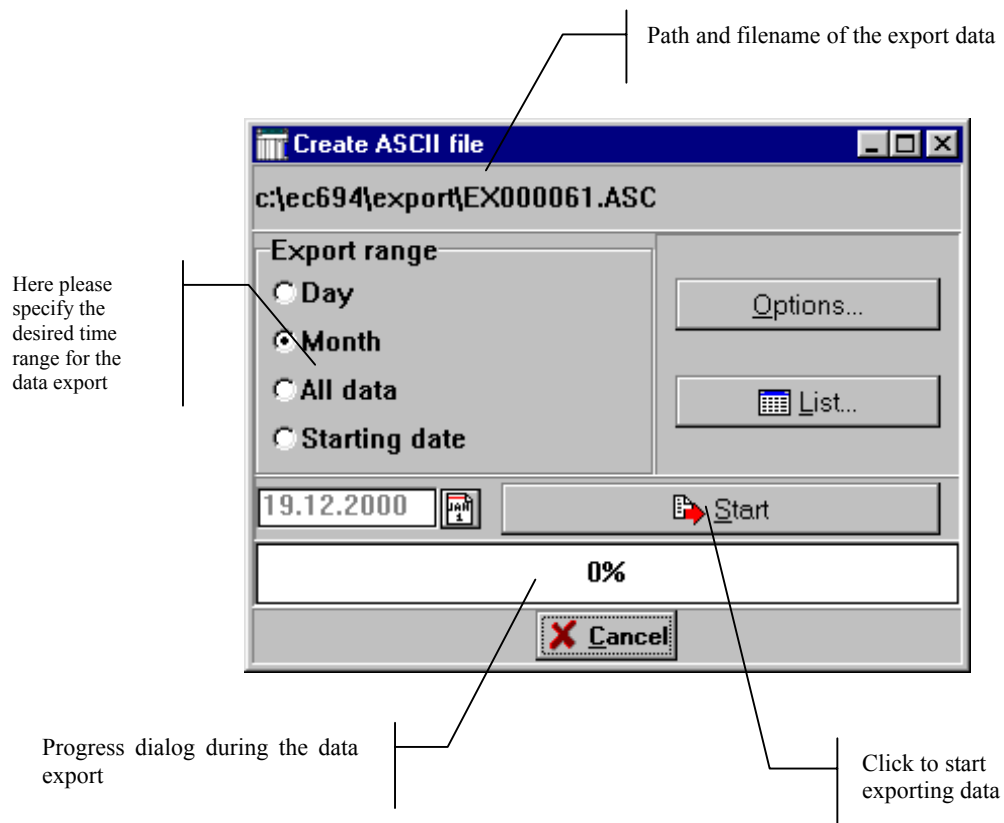
To export the hourly data read out from a corrector, you can use the export function provided in the **Reading and viewing hourly data** window. The data are written to a separate text file for each measuring point. Thanks to the structure of such file, it can be directly read in Excel.



Make sure that a valid export directory has been specified before you start the export operation. In the **OPTIONS** dialog, you can check the export directory and, if necessary, specify it.



If you click this button, the following window will appear:

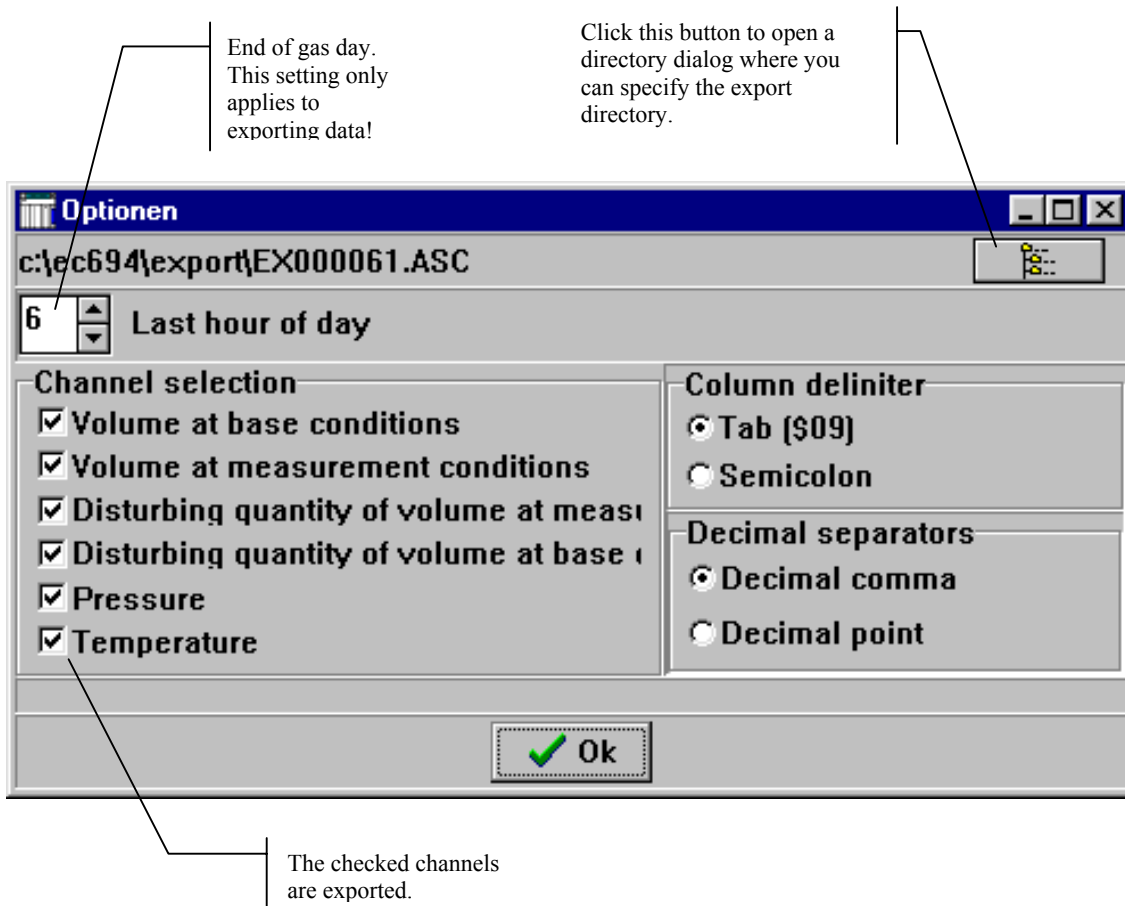


#### Data area

Before you start exporting data, you must define the data area to be exported. You can export data for a day, a month, from a specific date up to the end of data or you can export all hourly data stored.

## Export options


When you click , the following window will open:



By means of the channel selection, you define the channels for which data are to be exported. Data for channels which are not checked in the OPTIONS dialog will not be included in the data export.


In the text file (ASCII), the channels are arranged in columns. To separate the columns, a delimiter is inserted. Two characters are available for selection: the tab and the semicolon (;).

Pressure and temperature data can be exported with a settable number of decimal places. You can set the number of decimal places in the OPTIONS dialog on the ARCHIVES tab (see page 29). To separate the decimal places, either the decimal point or the decimal comma can be used. If you intend to read the exported ASCII file in the English version of Excel, you must select the decimal point, whereas the decimal comma is required for the German version, for example.

Click  to check or specify the export directory. The directory can also be specified in the OPTIONS dialog. For further information on setting the export directory, see section 0 on page 29.

The end of day set here is only valid for exporting data. By means of this setting, you define the hour of day at which the data export starts and ends. If 6 a.m. is set as the last hour of day, for example, and you are exporting the data for January, the first exported hourly value will be that of January 1, 7 a.m., and the last that of February 1, 6 a.m.

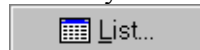
## Starting to export hourly data

If all settings are correct, data export can be started. To do this, click the  **Start** button. Data export will be started without a prompt being displayed. As soon as all data have been exported, the program will switch automatically to the hourly data display.

## Description of export files

The hourly data are written to a file named **EXPnnnnnn.ASC**.

"nnnnnn" is an unambiguous number assigned to the currently selected device master record. If data are exported for different device master records, a separate file is created in each case. If data are exported for the same device master record, an existing file for this master record will be **overwritten without warning**. The connection between the filename and the device master records is clearly documented in the export list. To open the list with the already exported files, click the



button. It contains the following information:

File
EX000055
EX000061
EX000103

Export filenames: All filenames start with EX followed by a 6-digit number and the file extension "ASC" which is not displayed in the table.

The following three columns contain the identification and the location and line names of the measuring station with which the export file is associated.

Identification	Location	Line
BZ_00000A001	Station West	Summer line
BZ_00000C017	Station South	Summer line
BZ_00000A002	Station West	Winter line

Created
28.05.2000
05.06.2000
26.10.2000

Date on which the export file was created.

Data from	Data to
01.03.2000 07:00	01.04.2000 06:00
01.05.2000 07:00	01.06.2000 06:00
26.10.2000 07:00	26.10.2000 14:00

Date/time range for which the export file contains data.

Click here to change the sort order.

The list can be sorted by filename, identification or location name. You can select the sort order by means of the list box located on the top right edge of the export list window.



The list shows information on all files stored in the export directory which comply with the name convention for export files. Therefore, there should be no other files in this directory which could be confused with the export files.

To delete entries from the list, the appropriate file must be deleted from the directory. To do this, use the customary Windows aids.

### Structure of an export file

Identification: BZ\_00000A001  
Location: Station West  
Line: Summer line

Date	Time	Vn	Vb	Pm	Tm
01.08.2000	07:00	1579	1381	1,14	-5,06
01.08.2000	08:00	1580	1382	1,14	-5,07
01.08.2000	09:00	1581	1382	1,14	-5,20
01.08.2000	10:00	1581	1381	1,14	-5,46
01.08.2000	11:00	1584	1383	1,14	-5,45
01.08.2000	12:00	1581	1381	1,14	-5,37
01.08.2000	13:00	1581	1382	1,14	-5,33
01.08.2000	14:00	1582	1382	1,14	-5,33
01.08.2000	15:00	1581	1382	1,14	-5,31
01.08.2000	16:00	1581	1382	1,14	-5,29
01.08.2000	17:00	1580	1381	1,14	-5,24
01.08.2000	18:00	1581	1382	1,14	-5,20
01.08.2000	19:00	1581	1382	1,14	-5,17
01.08.2000	20:00	1580	1382	1,14	-5,15
01.08.2000	21:00	1580	1381	1,14	-5,13
01.08.2000	22:00	1580	1382	1,14	-5,11
01.08.2000	23:00	1580	1382	1,14	-5,10
02.08.2000	00:00	1580	1382	1,14	-5,09
02.08.2000	01:00	1579	1381	1,14	-5,07
02.08.2000	02:00	1580	1382	1,14	-5,06
02.08.2000	03:00	1580	1382	1,14	-5,05
02.08.2000	04:00	1580	1382	1,14	-5,05
02.08.2000	05:00	1580	1382	1,14	-5,04
02.08.2000	06:00	1580	1382	1,14	-5,03