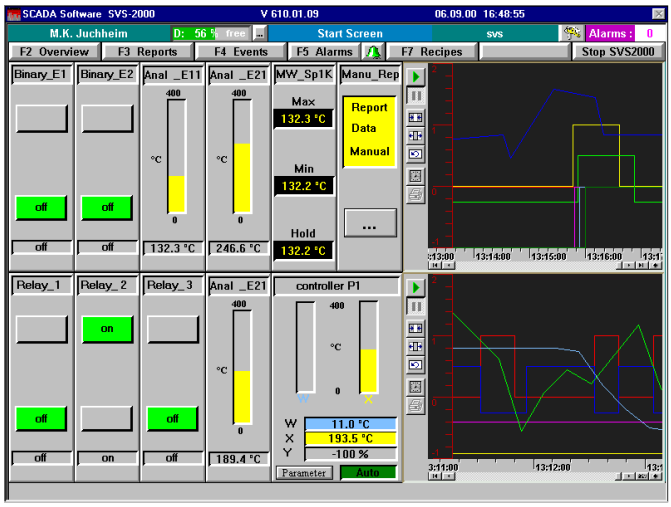

JUMO SVS-2000

Process visualization software

B 70.0753
Operating Manual

11.00/00365821

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Contents

1.1 Preface

The JUMO SVS-2000 process visualization software is suitable for the quick and easy creation of applications in process control systems.
Different JUMO instruments can be readily connected and visualized.

This Operating Manual describes the software version 610.01.04.
The operating system used for the SVS-2000 documentation is Microsoft Windows 98[1].

PC knowledge The processes described and the terminology used in the operating manual require extensive experience in handling the Windows 9x or Windows NT[1] operating systems.

Literature When connecting JUMO instruments, the corresponding operating instructions may be needed for wiring up the interfaces, especially for bus systems.

Address
M. K. JUCHHEIM GmbH & Co
Moltkestraße 13 - 31
36039 Fulda, Germany

Internet www.jumo.de

1.2 Delivery package

Please check each delivery for completeness and damage.
Should anything be missing or damaged, please contact the nearest subsidiary or the main factory.

- 1 CD
- Software licence agreement
- Operating Manual
- 1 Hardlock software/dongle

1.3 Accessories

- Interface converter I 7520 A/ISA
- Interface card with 2, 4 or 8 RS232 or RS422 interfaces
- Universal profile program editor EdiProg

1. Microsoft and Windows are registered trademarks of the Microsoft Corporation

1 Introduction

1.4 Typographical conventions

Warning signs

The signs for **Danger** and **Warning** have been used in this Manual under the following conditions:

Danger
This symbol is used when there may be **danger to personnel** if the instructions are disregarded or not followed accurately.

Caution
This symbol is used when there may be **danger to equipment or data** if the instructions are disregarded or not followed accurately.

Note signs

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

Reference
This sign refers to further information in other handbooks, chapters or sections.

abc[1]

Footnote
Footnote are notes which refer to certain points in the text. Footnotes consist of two parts:

Marking in the text and the footnote text.
The markings in the text are arranged as continuous raised numbers.
The footnote text (in smaller typeface) is placed at the bottom of the text and starts with a number and a full stop.

✱

Action
This sign indicates that an action to be performed is described. The individual steps are marked with an asterisk, e.g.

✱ Switch off the supply voltage

✱ Pull the terminal strip off the module

Program ➔ New

Command sequence

The italic script with the arrow indicates the logical program sequence for starting the function from the menu bar.

There are several installation possibilities.
If you are using the SVS-2000 software for the first time, you simply start with a new installation.

When updating an older version, special details have to be taken into account so that old projects can also be visualised and no data are lost.

2.1 Hardware requirements

The following minimum hardware requirements must be met in order to operate the SVS-2000 program.

Recommended configuration

- IBM-PC or compatibler PC with Pentium[1] processor
- 64MB main memory (128 MB for Windows 98)
- mouse
- one free serial port (communication with the instrument)
- 500MB available on hard disk
- Super VGA graphics (more than 800x600 pixel)
- Centronics interface (printer interface for hardlock)
- Color printer (for printing out trend pictures and reports)

2.2 Software requirements

- Windows 95, 98 or NT
- In SVS-2000 continuous operation, no other programs should run in the background.
- Internet Explorer 4.0 or above

2.3 Special conditions and notes

- SVS-2000 locks all programs that are running simultaneously in the background, such as, for example, the Windows start menu bar.
  As soon as you are logged in, the programs can be operated again.
- Please do not use any energy-saving modes for PCs, laptops and screens while operating the SVS-2000 (except screen savers)!

1. Pentium is a registered trademark of the Intel Corporation

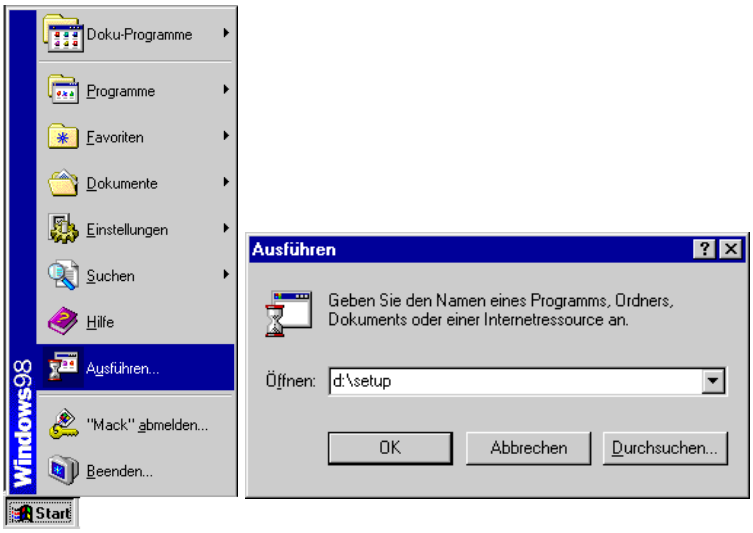
2 Installation

2.4 New installation

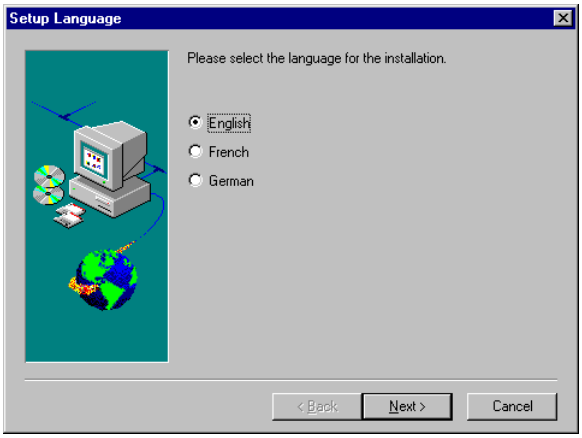
* Start Microsoft Windows
* Insert the SVS-2000 CD in the drive
  The installation program starts automatically.

Manually

* Installation using the function *Start* ➔ *Run*

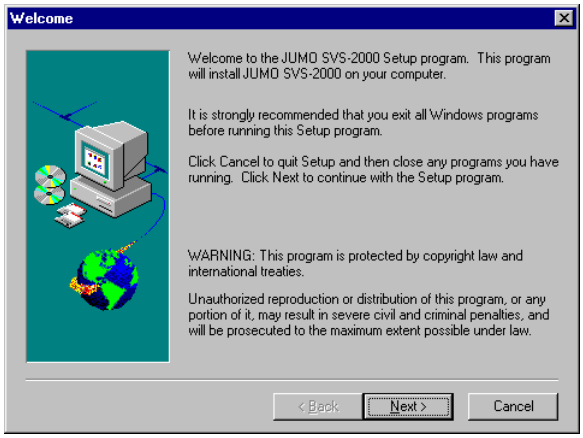


* Click on *OK*
* Select the language required
  All dialogs will now be shown in this language.



* Click on *Next*
  A text appears which points out the contractual relationship between the software manufacturer and the user.

Software licences



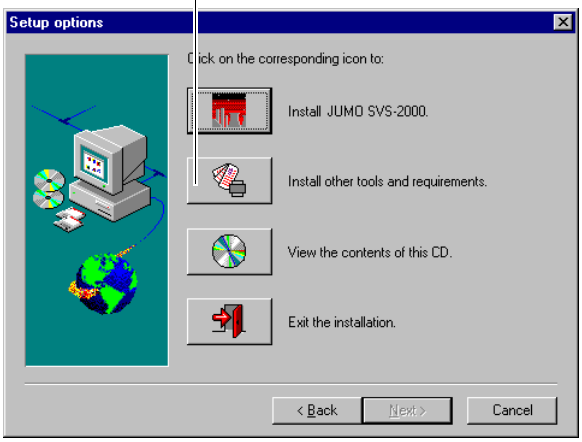
Please remember to return the completed registration card, which you will find at the beginning of the documentation, to JUMO (Attachment 1 of the software licence agreement). This ensures that you will receive the latest updates. Furthermore, if there are any queries, JUMO will be able to unambiguously identify the software installed.

✱ Click on *Next*

The sequences described in the operating manual are based on a standard installation.

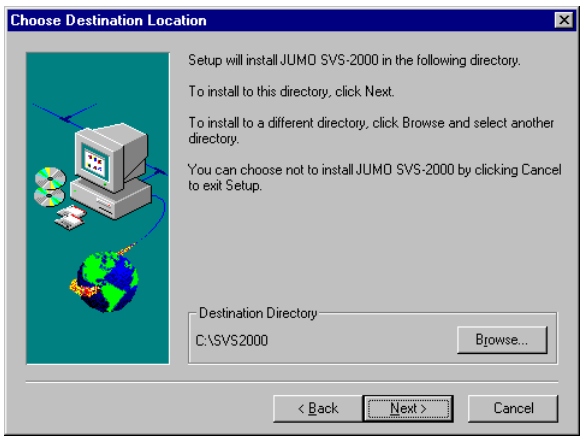
Additional software

⇨ Chapter 2.4.3 “Installing additional software”



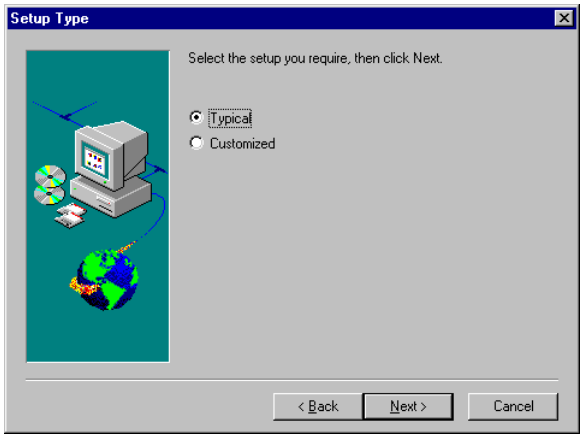
✱ Click on *Install JUMO SVS-2000*

The path for the SVS-2000 software and the projects recorded is given here.



Accept directory suggested	Select or create different directory
✱ Click on *Continue*	✱ Click on *Browse*
	✱ Specify or create new directory path
	✱ Click on *Next*

2.4.1 Standard installation



✱ Click on *Typical*

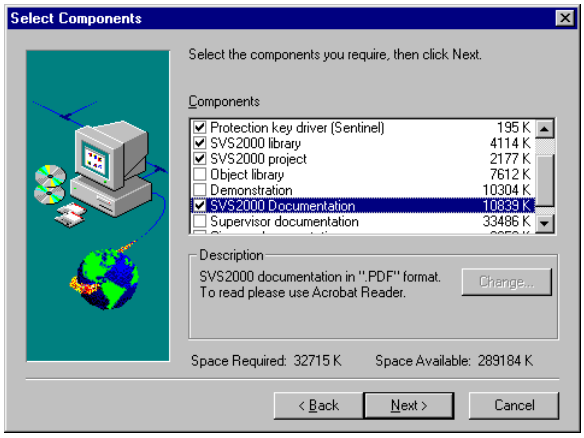
The installation program will run through the installation, and will again produce a message reporting which components have been installed, and that the installation has been successfully completed.

✱ Click on *Exit the installation*

2.4.2 Customized installation

✱ In the previous picture, click on *Customized*

The components which are marked with a tick correspond to the standard installation.
In addition, further functions can be selected.



☞ If the SVS2000 documentation has been ticked, this function, as well as the SVS icon will appear in the start menu. It can only be viewed when the Adobe Acrobat Reader has been installed on the PC.

⇨ Chapter 2.4.3 “Installing additional software”

✱ Click on *Next*

The installation program will run through the installation and will again produce a message reporting which components have been installed, and that the installation has been successfully completed.

✱ Click on *Exit the installation*

2.4.3 Installing additional software

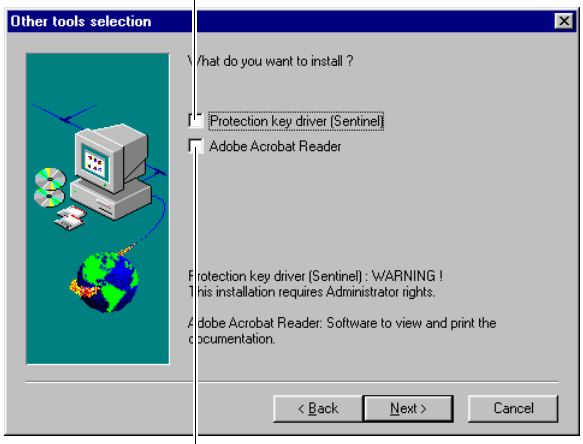
Additional software covers software functions which can easily be retrofitted without re-installation. Calling up the documentation on the screen is a typical application.

* Insert the SVS2000-CD in the CD-ROM drive
* Proceed with the standard installation until the button *Additional software* appears

⇨ Chapter 2.4.1 “Standard installation”

Hardlock driver

The Hardlock driver is automatically entered for the standard installation. Mark only if you are retrofitting Hardlock drivers!



Adobe Acrobat Reader

For calling up the documentation on the CD
Functions:
- Leafing through pages
- Maximizing, minimizing (zoom)
- Printing out individual pages or the entire document
- Searching via contents or generated bookmarks

* Mark *Additional software*
* Click on *Next*

The installation program will run through the installation, and produce a message when the customized installation has been successfully completed.

If you have forgotten to install the Adobe Acrobat Reader, this can be done retrospectively from a CD.

Directory: \\Doc\Eng\Reader\setup.exe

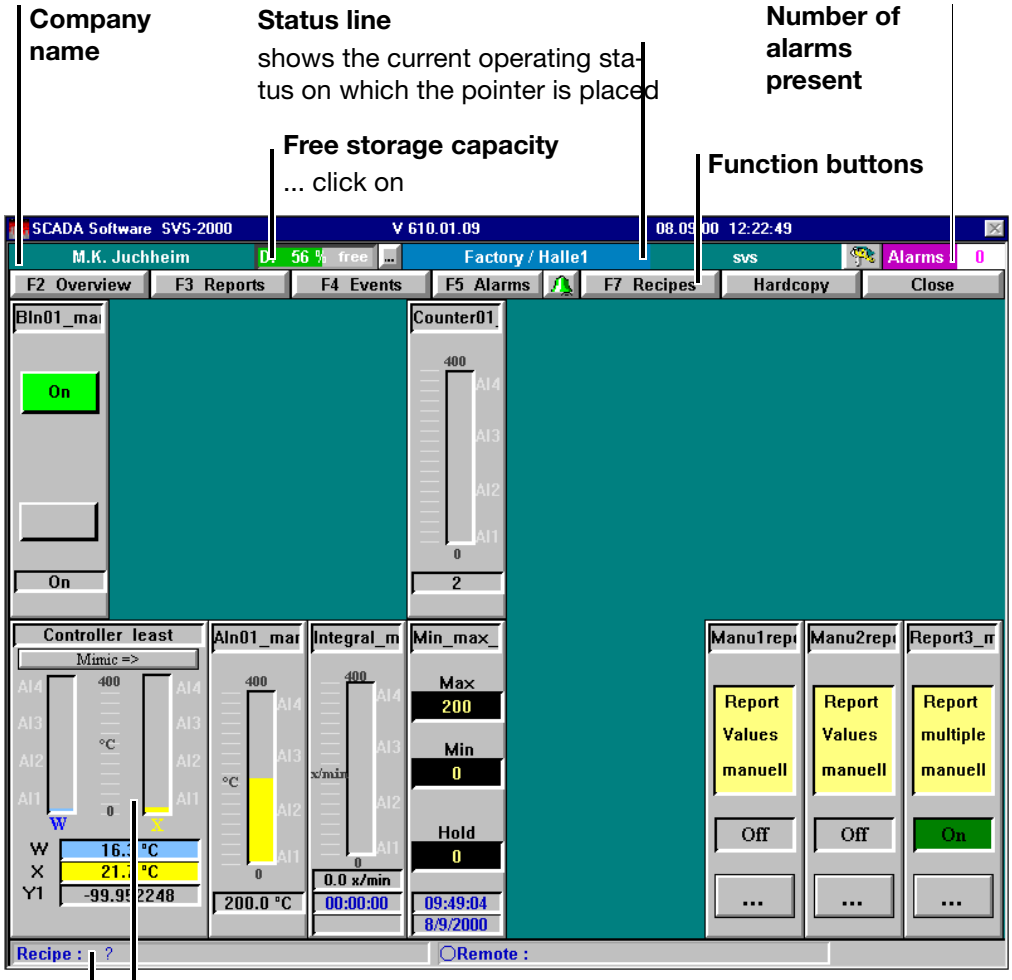
2.5 Clip on the Hardlock

The Hardlock dongle, which is included in the delivery, must be clipped on the Centronics interface (printer interface) of the PC to enable an orderly program run. Only after clipping it on, can all functions of the SVS-2000 software package be performed without restrictions.

2.6 Program start

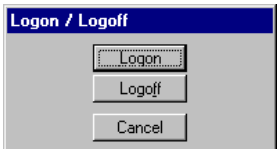
A double click on the icon starts the SVS-2000 process visualization system, and the following picture appears:

Starticon SVS-2000

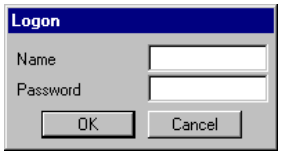


Logging on

* Press F 10, or click on button on the left of the alarms



* Click on *Logon*



* Enter user name “svs” and password “svs”
* Click on *OK*

“svs” is used for the standard user and standard password after the installation. The user name and access authorization are entered during configuration.

⇨ Chapter 4.2.3 “Password administration”

The SVS-2000 is now ready to run, and operates with up to 25 process variables, even without Hardlock.

* Configure system with F12
  Interfaces are set here, reports and maths functions defined, and passwords managed.
* Set the parameters with F11
  At this level, the visualization settings for group and trend pictures are entered. Different recipes and timetable settings are managed.

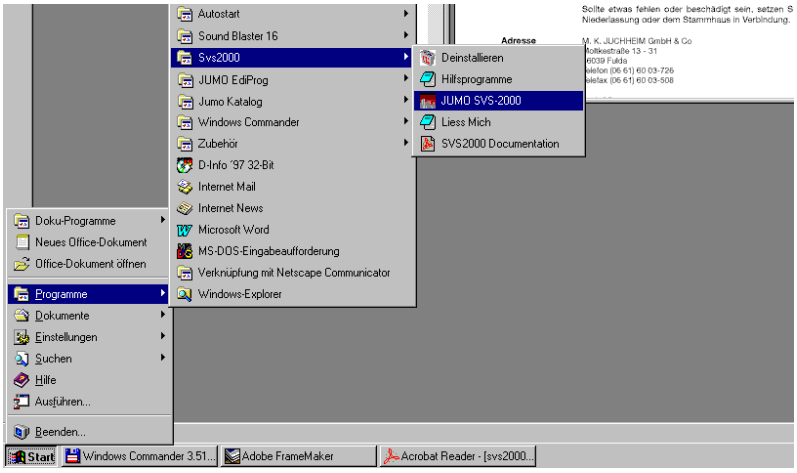
When all the settings have been stored, the program has to be re-started and the system can be operated as described.

⇨ Chapter 6 “Operation”

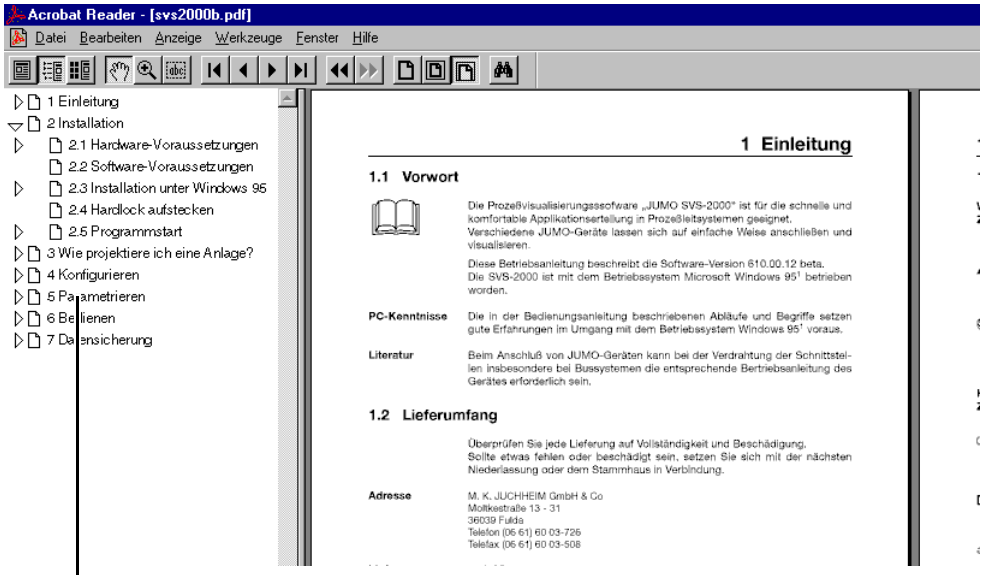
Function buttons	**Designation**	**Further information**
F2	Overview	⇨ Chapter 6.1 “Logon through a password”
F3	Reports	⇨ Chapter 6.5 “Reports”
F4	Events	⇨ Chapter 6.6 “Events”
F5	Alarms	⇨ Chapter 6.7 “Alarms”
F7	Recipes	⇨ Chapter 6.8 “Recipes”
F10	Logging on via password	⇨ Chapter 4.2.3 “Password administration”
F11	Parameter level	⇨ Chapter 5 “Parameterization”
F12	Configuration level	⇨ Chapter 4 “Configuration”
Stop SVS2000	Leave program	
Esc or 	Escape button	Close window

2.6.1 Print out the documentation

After an individual installation, the SVS 2000 documentation can be called up after the start menu. The “Adobe Acrobat Reader” must be installed!



✱ In the start menu, run *Programs* ➔ *SVS2000* ➔ *svs2000documentation*



Bookmarks

You can click on the small triangles. They contain search criteria, such as contents, for example.
If you click on the text next to it (hand symbol), you can jump directly to the page in the documentation.

☞ If you have forgotten to install the documentation, you can print it out retrospectively from a CD.

Directory: \\Doc\Eng\Svs2000\ manual.pdf

\\Doc\Deu\Svs2000\ Handbuch.pdf

\\Doc\Fra\Svs2000\ instruct.pdf

2 Installation

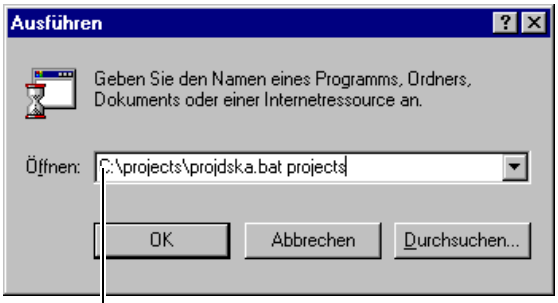
2.7 Version update

In order to update, carry out the steps in the sequence described in Chapter 2.7.1 to Chapter 2.7.5.

2.7.1 Step 1: Backup of plant data on diskette

Plant data cover plant-specific settings at the configuration and parameter levels (process systems, devices, functions, variables, reports, group and trend pictures)

* Click on *Run* in the start menu window
* Enter the following line



Drive letter under which the SVS-2000 is installed

* Insert a blank diskette in drive A:
* Confirm with *OK*

In this way, the current plant configuration for the SVS-2000 is saved to diskette.

2.7.2 Step 2: Backup of project data

This is a safety measure, in case the update procedure could not be completed (e.g. power failure). The data are still available and can be retrieved for a new update.

* Save project data from directory C:\projects\
  to separate data medium

Directory C:\projects\... in C:\projects_old\... copy

After a successful update, this directory can be deleted.

2.7.3 Step 3: Carry out SVS-2000 update

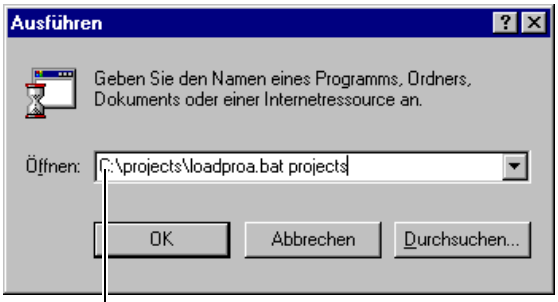
* Close all running programs except Windows
* Insert CD in disk drive
  Install Shield starts automatically
* Carry out complete re-installation

⇨ Chapter 2.4 “New installation”

* Answer all questions “Overwrite data?” with *yes*

2.7.4 Step 4: Restore plant/process data from diskette

* Insert diskette with the backed up plant/process data
* Click on *Run* in the Windows start menu
* Enter the following line



Drive letter under which the SVS-2000 is installed

* Remove diskette from disk drive

2.7.5 Step 5: Regenerate plant/process data

* Freshly start SVS-2000
* Press F 12, click on configuration and execute *Generate data*
* Use EXIT to leave the configuration level and quit SVS-2000
* Freshly start SVS-2000, by a double-click on the start icon
* Log in as usual, giving the old password

Please check all plant and configuration settings and try to select reports that have been recorded. If the program can be operated in the same way as before the update, then the update has been successfully completed.

3.1 Functional principle

The SVS-2000 enables the quick and economical visualisation, alarm signalling and documentation of process data in customer-specific software.

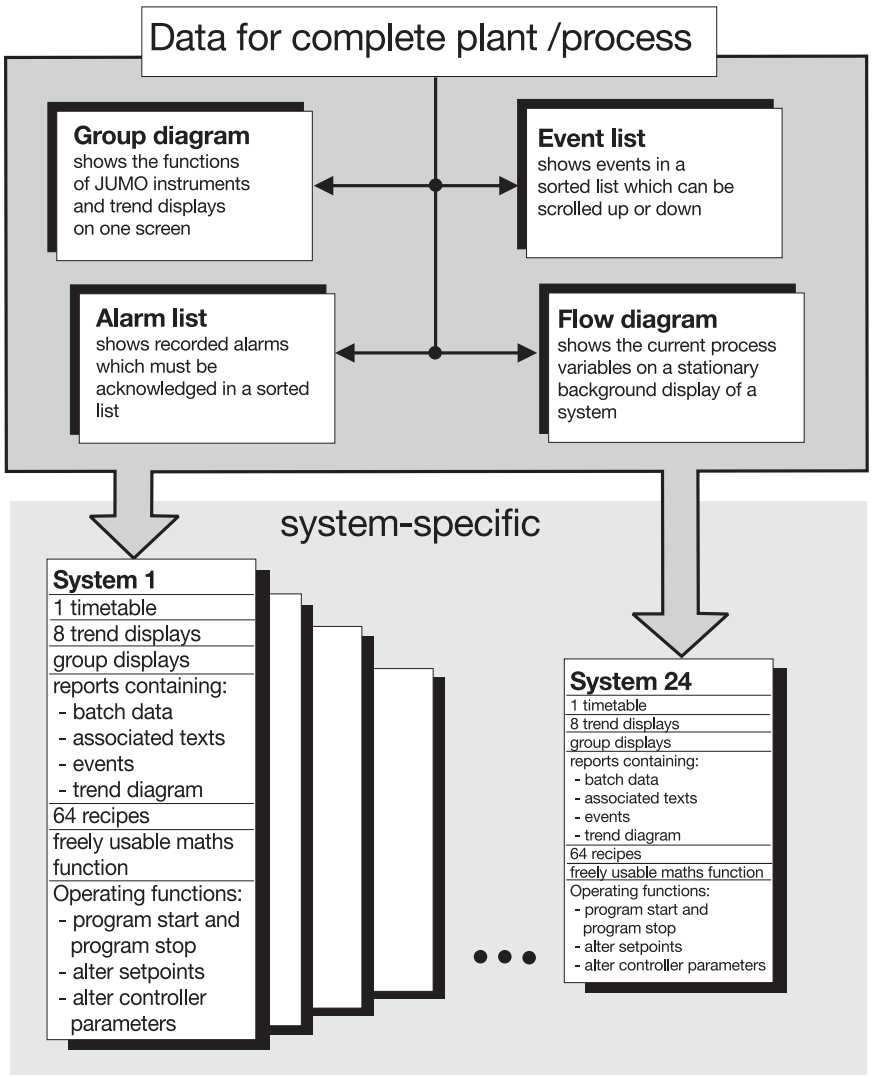
Integrated functions

To this end, pre-assembled functions and templates are available which can be arranged to meet specific requirements. The creation of specifications for the device functions and subsequent software tests, as well as the animation of functions, are not required. This has already been implemented for JUMO instruments and their function blocks. As a special feature, a convenient batch reporting function has already been integrated, which is structured according to the processes.

Expansion

If the standard functions are insufficient, then the functions can be expanded, using the development tool of the PCVUE software. More than 80 different communications drivers are available for this purpose.

Structure of the SVS-2000



3 How to plan a plant or process?

3.1.1 Divisions within plants or processes

Complete plant/process

Every larger-sized industrial process involves numerous process parameters, such as temperatures, pressures, manipulating variables, events, alarm messages and operating signals.
Group displays, alarm lists and event lists of all the instruments (=devices) that are connected can be created. It is possible to use a system/process diagram as a background (sequential display).

A specific **system name** is given to each of the process systems (= subdivisions of the complete plant or process) that are connected. In addition, a **storage time** for the historical data of this process system is entered on a hard disk.

Process specific data

In most cases, a process system is defined by its spatial layout. All the process variables which contribute to the process (process-specific) can be recorded, and are essential for its proper functioning. For the assignment to a process system it is irrelevant to which network or interface the corresponding variable belongs.

Example

A baking plant produces baked goods. The maximum baking temperatures and the baking time must not be exceeded. If the permitted temperatures are exceeded, or a transducer has failed, then an alarm message must be produced.

It is possible to produce 10 different baked goods in the same baking plant.
Here, the SVS-2000 can easily make a batch-related changeover between recipes.

3.1.2 Defining the interfaces

Each process variable is called via an interface (setpoints and process values) or provided (setpoints) and has a special data format. JUMO instruments feature device-specific variables that are combined and visualised so that they only have to be selected from a list.
Data acquired in this way can be used for any purpose in the SVS-2000.

The sampling interval depends on the device connected and the interface protocol. It lies between 0.5 sec and 1 sec per JUMO instrument that is connected.

3.2 Single COM connection

Most PCs are equipped with 2 RS232 interfaces. COM1 is assigned to the mouse connection, COM2 is still available.

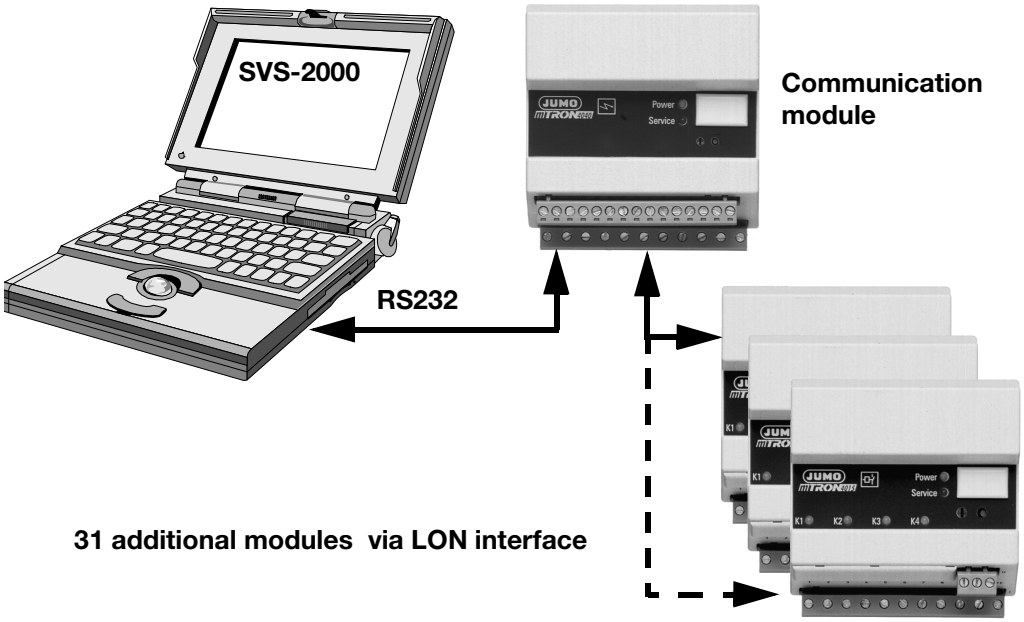
Direct

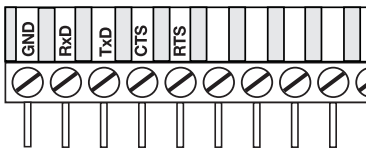
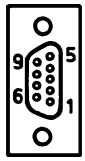
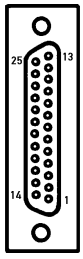
JUMO instruments can be individually connected, directly via the RS232 interface, This option is available for testing the SVS-2000 software.
(Instruments connected to a network or bus are referred to as devices)

3.2.1 Via RS232 interface and communication module

JUMO mTRON

A maximum of 128 instruments of the JUMO mTRON series (as well as the LPF-100/200 and LKR-96) can be combined via the communication module with an RS232 interface. The more links there are in the mTRON network, the higher the signal run times will be, and it is therefore advisable to reduce the number of modules to max. 64, and distribute them between other interfaces.



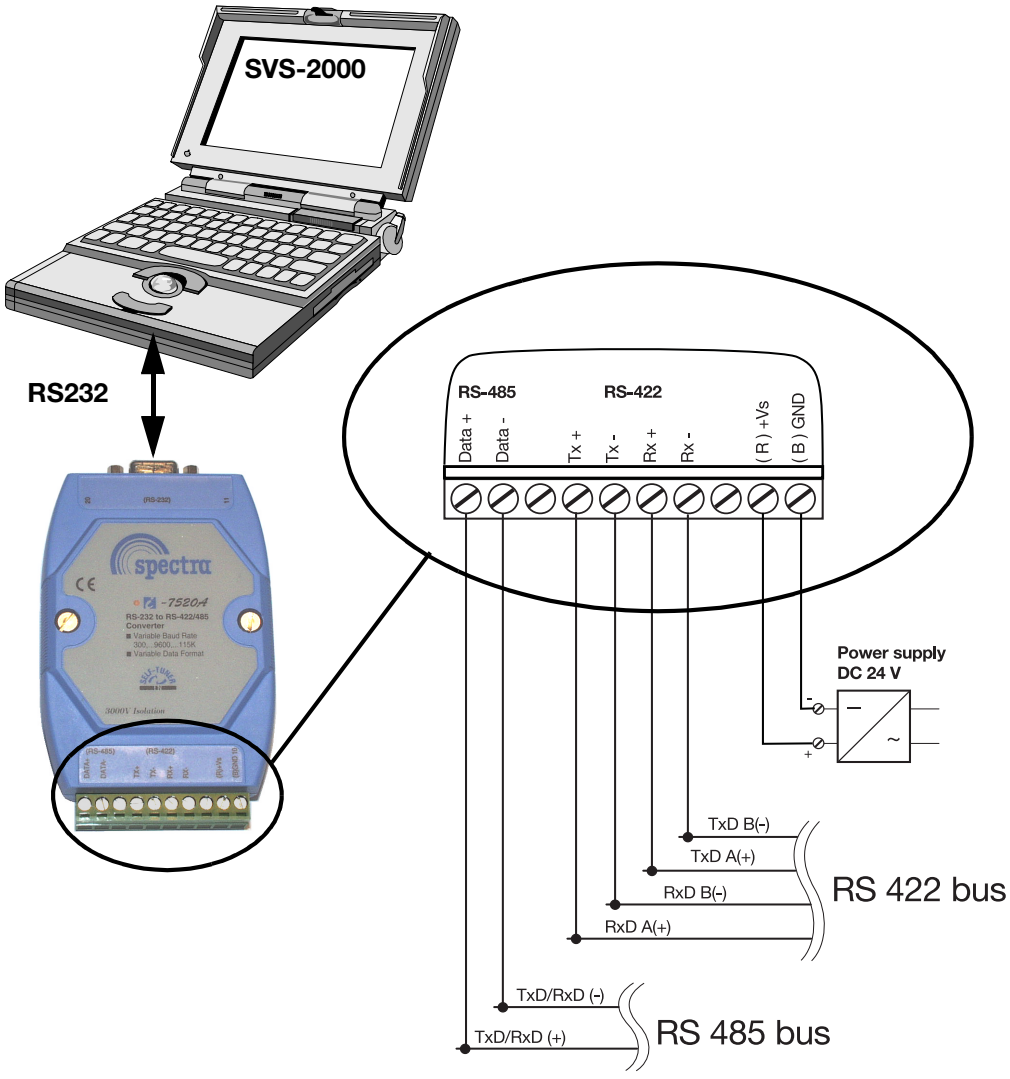
device	RS232 interface		PC interface RS232 9-pin	PC interface RS232 25-pin
Communication module for mTRON modules, LPF-100/200 and LKR-96	II_1 GND		5 GND	7 GND
	II_2 RxD		2 RxD	3 RxD
	II_3 TxD		3 TxD	2 TxD
	II_4 CTS		8 CTS	5 CTS
	II_5 RTS		7 RTS	4 RTS
				

3.2.2 Network via RS232 to RS422 interface converter

Via an interface converter, such as the I 7520A/ISA, the RS232 can be converted to RS422 or 485 level.

* Plug the interface into the COM2 socket at the rear of the PC using an extension cable

Interface converter



3.2.3 Device combinations

A maximum of 31 insdevicetruments of the same protocol type and with an RS422 interface can be operated in the data network.

Option 1 for JUMO-ASCII

Type	Description	Bus protocol	Further info Data Sheet
SRM-48	Universal compact controller	JUMO-ASCII	70.3540
MDA2-48	Digital indicator	JUMO-ASCII	95.1510
TMM-45	Smart transmitter	JUMO-ASCII	95.6510

Möglichkeit 2 für J-Bus/Modbus

Type	Description	Bus protocol	Further info Data Sheet
dTRANS pH 01	Transmitter/controller for pH value	Jbus/Modbus	20.2530
dTRANS Rd 01	Transmitter/controller for redox potential		20.2535
dTRANS Lf 01	Transmitter/controller for conductivity		20.2540
dTRANS Rw 01	Transmitter/controller for high-purity water		20.2545
dTRON 16.1	Process controller	Jbus/Modbus	70.3011
dTRON 04.1 dTRON 08.1	Process controller		70.3030
DICON 400/500	Universal process controller		70.3570
DICON 401/501	Profile controller /generator		70.3580
DICON 1000	Process controller		70.3560
DICON 1001	Profile controller		70.3565
PRF-100	Process control system Meat-processing industry		70.0401
PR-100	Process control system (with restricted range of features)		70.0501
mTRON modules	Modules of the JUMO mTRON automation system	Jbus/Modbus via communication module	70.4010 ... 70.4090
LPF-100/200	3-channel profile controller		70.0105
LPT-100	Profile generator for tumblers, mixers and kneaders		70.0107
LKR-96	Controller for boilers		70.0201
Logoline 500	Pen recorder with text printing	Jbus/Modbus	95.3530
Logoprint 500	Printing recorder		95.4012
Logoscreen	Screen (paperless) recorder		95.5010

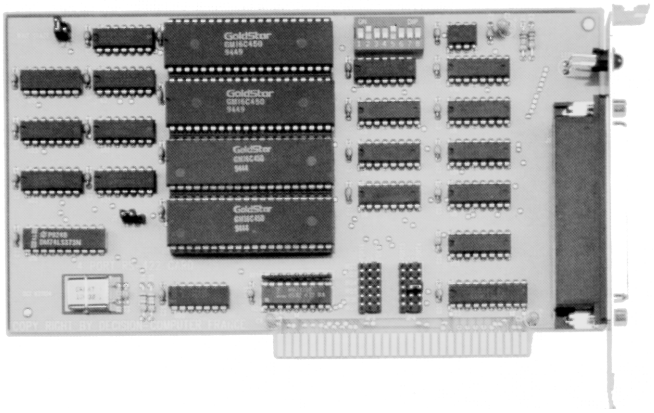
3 How to plan a plant or process?

3.3 Several COM connections

3.3.1 Network via 4 x RS422 PC plug-in card

However, practical experience shows that one interface is not sufficient. With more than 250 process variables or large-scale processing plants with cables in different buildings, it is advisable to fit an additional interface. In this way, 2, 4 or 8 RS422 networks can be set up.

⇨ Data Sheet *Accessories*

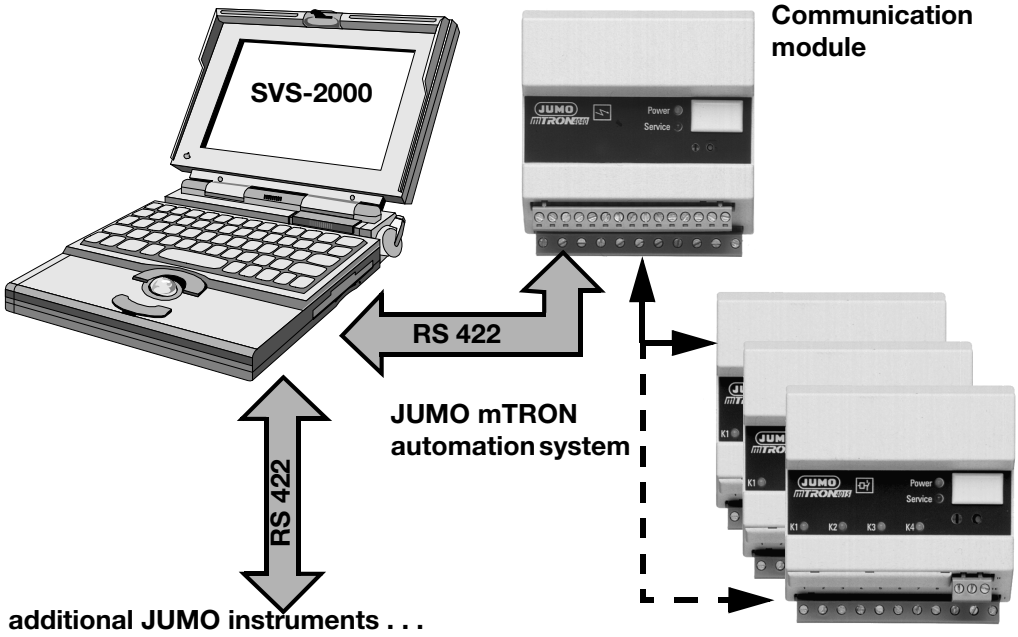


Per network, a maximum of 31 devices of the same protocol type and with RS422 interface can be operated within a data network.

⇨ Chapter 3.2.3 “Device combinations”

mTRON

The JUMO-mTRON automation system can be accessed via the communication module. The modules within the LON network can also be addressed, through device addresses, in the same way as other JUMO instruments in the RS 422/485 data network.



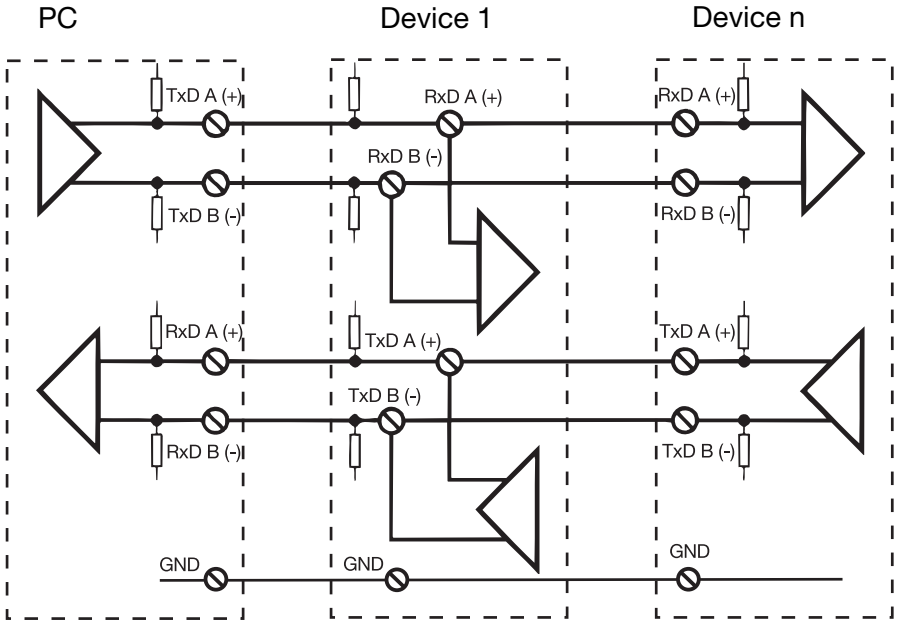
3.4 Connecting JUMO instruments

Protocols

The SVS-2000 exchanges process data via different interfaces.
A Modbus or ASCII protocol is used to transfer the data to the appropriate instrument via the device address that was entered and, conversely, to receive them.

RS422

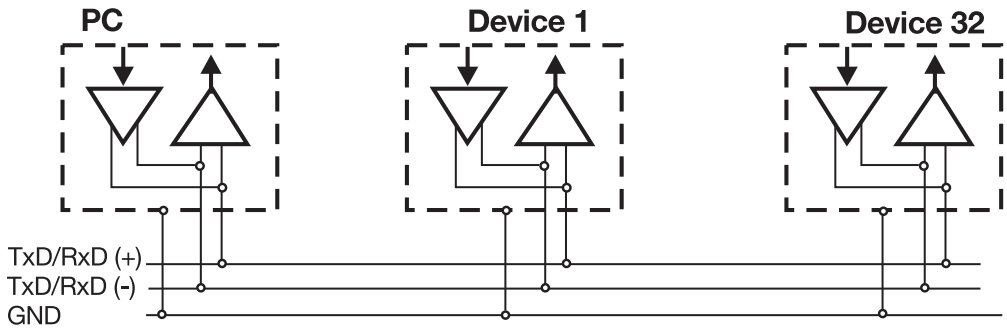
It is very simple to make a connection via the RS422 interface. All JUMO instruments are wired up as shown in the diagram. Separate lines are available for sending and receiving (full duplex operation).



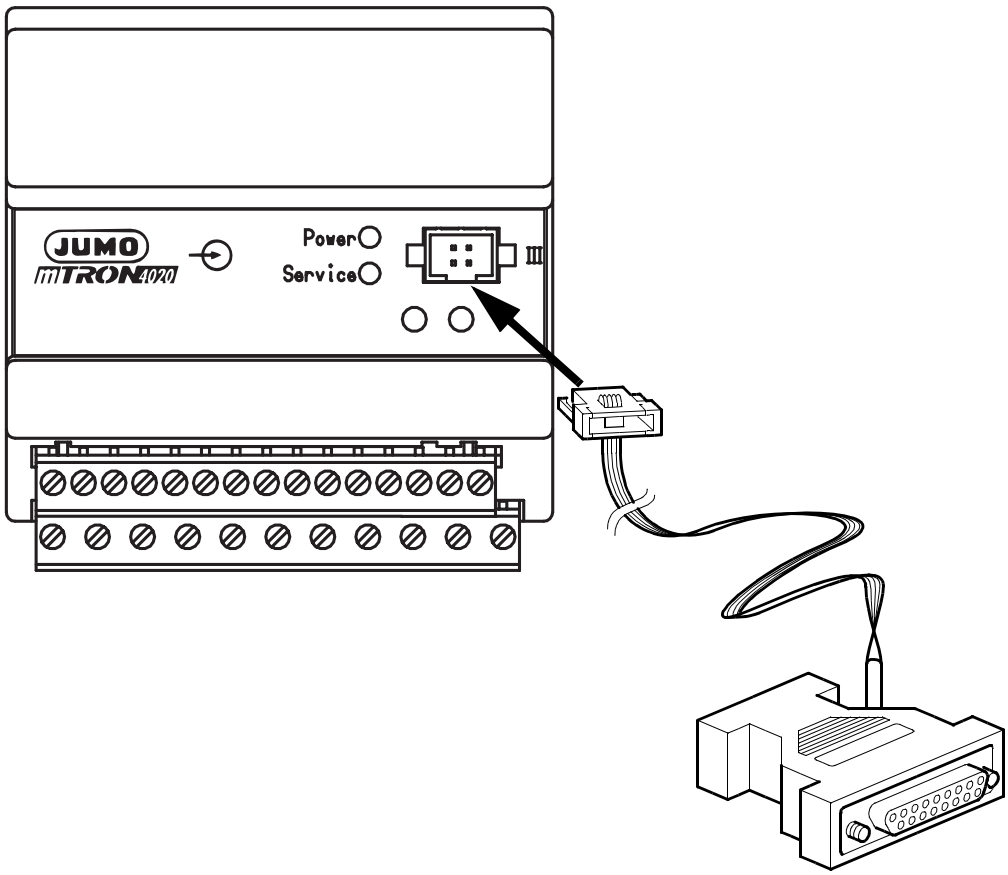
Termination resistors have already been permanently integrated into JUMO instruments. If instruments are connected which are not from JUMO, it may be necessary to retrofit them.

RS485

The RS485 has only one data connection, which can be switched over alternately between sending and receiving.



The interface is intended for connecting the JUMO mTRON-iTOOL and must not be used as a 9-pin to 25-pin adapter.



3.4.1 Terminal assignment RS422

Device	RS422 device interface	Connection	4-port RS422 interface card
dTRANS pH 01, dTRANS Rd 01, dTRANS Lf 01, dTRANS Rw 01	1 TxD B(-)		15 RxD (-)
	2 TxD A(+)		3 RxD (+)
	4 RxD B(-)		14 TxD (-)
	5 RxD A(+)		2 TxD (+)
	3 GND		7 GND
dTRON 04.1 dTRON 08.1	94 TxD B(-)		15 RxD (-)
	93 TxD A(+)		3 RxD (+)
	92 RxD B(-)		14 TxD (-)
	91 RxD A(+)		2 TxD (+)
	90 GND		7 GND
SRM-48	94 TxD B(-)		15 RxD (-)
	93 TxD A(+)		3 RxD (+)
	92 RxD B(-)		14 TxD (-)
	91 RxD A(+)		2 TxD (+)
	90 GND		7 GND
DICON 400/500 DICON 401/501	4 TxD B(-)		15 RxD (-)
	3 TxD A(+)		3 RxD (+)
	2 RxD B(-)		14 TxD (-)
	1 RxD A(+)		2 TxD (+)
	5 GND		7 GND
DICON 1000, DICON 1001	94 TxD B(-)		15 RxD (-)
	93 TxD A(+)		3 RxD (+)
	92 RxD B(-)		14 TxD (-)
	91 RxD A(+)		2 TxD (+)
	90 GND		7 GND
Communication module for mTRON modules, LPF-100/200 LPT-100 LKR-96			
	5 RxD B(-)		14 TxD (-)
	4 RxD A(+)		2 TxD (+)
	3 TxD B(-)		15 RxD (-)
	2 TxD A(+)		3 RxD (+)
	1 GND		7 GND
MDA2-48	94 TxD B(-)		15 RxD (-)
	93 TxD A(+)		3 RxD (+)
	92 RxD B(-)		14 TxD (-)
	91 RxD A(+)		2 TxD (+)
	90 GND		7 GND
Logoline 500, Logoprint 500	1 TxD A(+)		15 RxD (-)
	2 TxD B(-)		3 RxD (+)
	3 RxD A(+)		14 TxD (-)
	4 RxD B(-)		2 TxD (+)
	5 GND		7 GND
Logoscreen	8 TxD B(-)		15 RxD (-)
	3 TxD A(+)		3 RxD (+)
	9 RxD B(-)		14 TxD (-)
	4 RxD A(+)		2 TxD (+)
	5 GND		7 GND

Device	RS422 device interface	Connection	4-port RS422 interface card
PRF-100 PR-100	3 TxD (A+)		3 RxD (+)
	4 RxD (A+)		2 TxD (+)
	5 GND		7 GND
	8 TxD (B-)		15 RxD (-)
	9 RxD (B-)		14 TxD (-)

3.4.2 Terminal assignment RS485

Device	RS485 device interface	Connection	Interface Spectra I 7520A/ISA
dTRANS pH 01, dTRANS Rd 01, dTRANS Lf 01, dTRANS Rw 01	2 RxD/TxD-		2 Data-
	1 RxD/TxD+		1 Data+
	3 GND		(B) GND
dTRON 04.1 dTRON 08.1	94 RxD/TxD B(-)		2 Data-
	93 RxD/TxD A(+)		1 Data+
	90 GND		(B) GND
dTRON 16.1	94 RxD/TxD B(-)		2 Data-
	93 RxD/TxD A(+)		1 Data+
	90 GND		(B) GND
SRM-48	94 RxD/TxD B(-)		2 Data-
	93 RxD/TxD A(+)		1 Data+
	90 GND		(B) GND
DICON 400/500 DICON 401/501	4 RxD/TxD-		2 Data-
	3 RxD/TxD+		1 Data+
	5 GND		(B) GND
DICON 1000, DICON 1001	94 RxD/TxD B(-)		2 Data-
	93 RxD/TxD A(+)		1 Data+
	90 GND		(B) GND
Communication module for mTRON modules, LPF-100/200 and LKR-96	Connector II		
	3 RxD/TxD B(-)		2 Data-
	2 RxD/TxD A(+)		1 Data+
	1 GND		(B) GND
MDA2-48	94 RxD/TxD B(-)		2 Data-
	93 RxD/TxD A(+)		1 Data+
	90 GND		(B) GND
Logoline 500, Logoprint 500	2 RxD/TxD B(-)		2 Data-
	1 RxD/TxD A(+)		1 Data+
	5 GND		(B) GND
Logoscreen	8 RxD/TxD B(-)		2 Data-
	3 RxD/TxD A(+)		1 Data+
	5 GND		(B) GND
TMM-45	43 RxD/TxD B(-)		1 Data+
	42 RxD/TxD A(+)		2 Data-
	41 GND		(B) GND

3.5 How many process variables?

3.5.1 Functions

All JUMO instruments include functions such as controllers, limit comparators or operating functions. Each function can be more or less complex, depending on the number of variables that it uses.

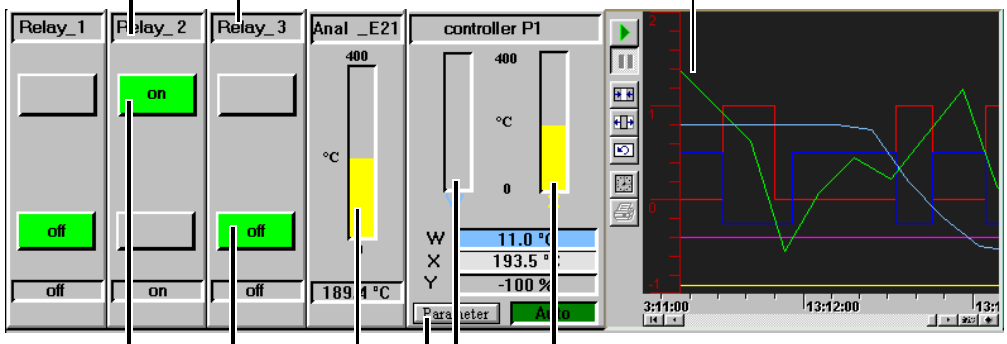
⇨ Chapter 3.6 “Table of variables”

logic

Logic functions, such as operating functions and relays, consist of the name and indication of their switching status, whose designation can be set.

analog

Analog functions include the name, bargraph presentation and alphanumeric presentation. On overlimit, the bargraph color changes. Analog functions are available for inputting setpoints.



Name of the logic function
for relays, switching contacts or limit comparators
⇨ Chapter 4.3.3 “Configure device functions”

Function name

Trend display

Bargraph representation
process value

Bargraph representation
setpoint

Controller parameters
can be set via SVS-2000

Bargraph color changes on out-of-limit
setting the limit values
⇨ Chapter 4.3.4 “Variable format”

Buttons
indicate the switching status as configured e.g. ON/OFF
⇨ Chapter 4.3.4 “Variable format”

combined functions

Trend displays, for example, monitor different analog and digital signals and make them visible for a specific period of time. The color of the curve can be set and the trend display can be enlarged to screen size.

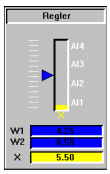
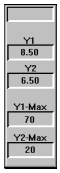
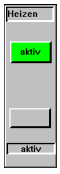
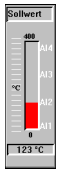
3.5.2 PC direct

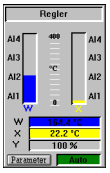
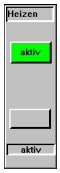
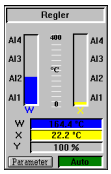
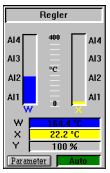
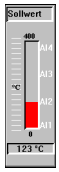
This function is reserved for entry via the PC itself and, for this reason, does not require any variables. It is used for setpoint input or for the input of batch data for reports.

Special functions

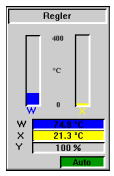
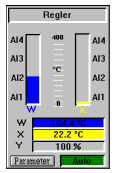
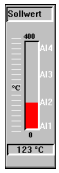
- In addition, integral functions for hours and minutes are available
- Using the Min/Max functions, a variable can be investigated for minimum and maximum value.
- Empty frames improve group displays optically.
- F-value calculation for the meat-processing industry

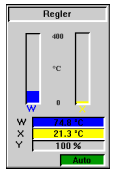
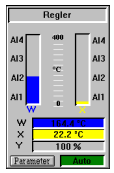
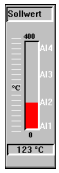
3.6 Table of variables

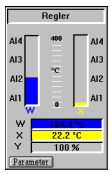
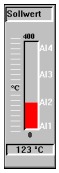
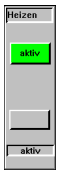
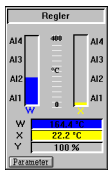
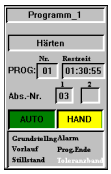
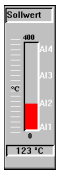
Device	Function	Number of variables	Representation in SVS-2000
dTRANS pH 01, **dTRANS Rd 01,** **dTRANS Lf 01,** **dTRANS Rw 01**	Controller	7	
	Output	4	
	Alarm	4	
	Logic input 1, 2	1 each	
	Logic output 1 — 4	1 each	
	Limit comparator (limit value)	1	
	Analog input 2	1	

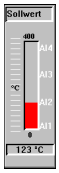
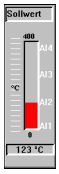
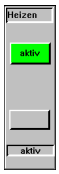
Device	Function	Number of variables	Representation in SVS-2000
dTRON 16.1	Controller + parameters	18	
	Controller	4	
	Logic input 1— 2	1 each	
	Limit comparator 1 — 2	1 each	
dTRON 04.1 **dTRON 08.1**	Controller + parameters	20	
	Controller	6	
	Analog input 2	1	
	Logic input 1— 2	1 each	
	Limit comparator 1— 2	1 each	
SRM-48	Controller 1 +parameters (none, 1 or 2 decimal places)	16	
	Controller (none, 1 or 2 decimal places)	9	
	Analog input 2 (non, 1, 2 or 3 decimal places)	1	
	Relay contact 1—3	1 each	

3 How to plan a plant or process?

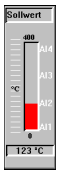
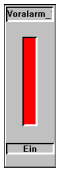
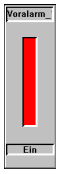
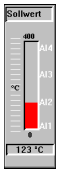
Device	Function	Number of variables	Representation in SVS-2000
DICON 400/500	Controller	11	
	Controller + parameters	29	
	Analog input 1 — 4	1 each	
	Maths 1, 2	1 each	
	Logic input 1— 8	1 each	
	Limit comparator 1— 8	1 each	
	Logic output 1, 2	1 each	

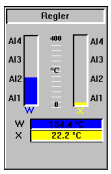
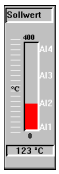
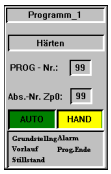
Device	Function	Number of variables	Representation in SVS-2000
DICON 401/501	Controller - setpoint 1 - process value - output	3	
	Controller + parameters	21	
	Analog input 1 — 4	1 each	
	Maths 1, 2	1 each	
	Logic input 1— 8	1 each	
	Operating contacts 1 — 8	1 each	
	Logic output 1, 2	1 each	
	Limit comparator 1—8	1 each	
	Profile generator 1	27	
	Setpoints 2 — 4	3	

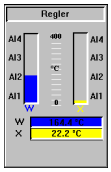
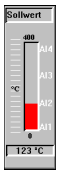
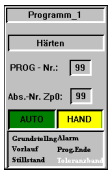
Device	Function	Number of variables	Representation in SVS-2000
DICON 1000	Controller 1— 2 Controller 1— 2 + parameters	14 each 25 each	
	Analog input 1— 4	1 each	
	Analog output 1, 3 — 4	1 each	
	Analog output maths module 1— 2	1 each	
	Logic input 1— 5	1 each	
	Logic output 1— 12	1 each	
	Logic output logic module 1— 2	1 each	
	Limit comparator 1— 8	1 each	
DICON 1001	Controller 1— 2 Controller 1— 2 + parameters Profile generator	3 each 14 each 22 each	 
	Set setpoints 2— 4, 6— 8	7 each	
	Analog input 1— 4	1 each	
	Analog output 1, 3— 4	1 each	
	Analog output maths module 1— 2	1 each	
	Logic input 1— 5	1 each	
	Logic output 1— 12	1 each	
	Logic output logic module 1— 2	1 each	
	Limit comparator 1— 8	1 each	
	Operating contacts, none, 1— 8	1 each	

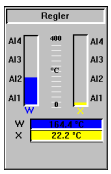
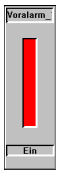
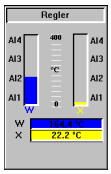
Device	Function	Number of variables	Representation in SVS-2000
MDA2-48	Logic input 1— 2	1 each	
	Analog input 1— 2 (none, 1, 2, 3 or 4 decimal places)	1 each	
	Measurement store 1— 2 (none, 1, 2, 3 or 4 decimal places)	3 each	
Logoprint 500 **Logoline 500**	Analog input 1— 6, 1—3	1 each	
	Count input 1— 2, 1— 2	1 each	
	Logic input 1— 8, 1— 8	1 each	
	Limit comparator 1— 8, none	1 each	
	Logic output 1— 4, 1—8	1 each	

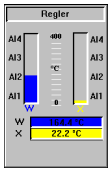
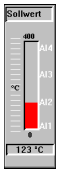
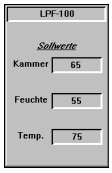
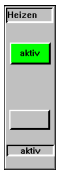
3 How to plan a plant or process?

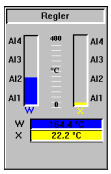
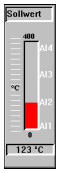
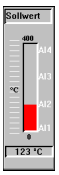
Device	Function	Number of variables	Representation in SVS-2000
Logoscreen	Analog input 1— 36	1 each	
	Analog input maths 1— 6	1 each	
	Counter 1—4	1 each	
	Logic input combination alarm 1	1	
	Logic input maths 1— 6	1 each	
	Logic input 1—13	1 each	
	Logic output 1— 6	1 each	
	Alarm group 1— 6	1 each	
	External logic input 1— 6 (LON)	1 each	
	Device error 1	1	
	Disk error 1	1	
TMM-45	Analog input 1	1	

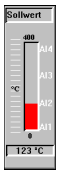
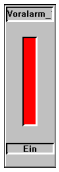
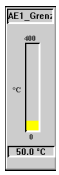
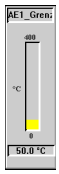
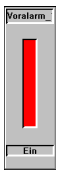
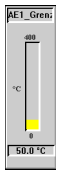
Device	Function	Number of variables	Representation in SVS-2000
PR-100	Controller 1— 4	2 each	
	Logic input 1 — 36	1 each	
	Logic output 1— 40	1 each	
	Limit comparator 1— 16	1 each	
	Analog input 1—10	1 each	
	PLC_Float marker 0— 3	1 each	
	PLC_Marker 0— 8	1 each	
	Profile generator	19	

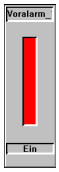
Device	Function	Number of variables	Representation in SVS-2000
PRF-100	Controller chamber	2	
	Core	2	
	Controller humidity	2	
	Temperature	2	
	Logic input 1— 36	1 each	
	Logic output 1— 40	1 each	
	Limit comparator 1— 16	1 each	
	Analog input 1—10	1 each	
	PLC_Float marker 0— 3	1 each	
	PLC_Marker 0— 8	1 each	
	Profile generator	23	

Device	Function	Number of variables	Representation in SVS-2000
LKR-96	Controller (temperature)	2	
	Core temperature	2	
	F-value	2	
	Limit comparator 1— 2	1	
	Logic input combination alarm	1	
	Profile generator 1/ 2 (Profile generator 2 for temporary changes)	11/5	
LPF 100/200 process unit	Controller, chamber	2	
	Controller, humidity	2	
	Controller, temperature	2	
	Limit comparator 1—6	1 each	
	Relay contact 1— 24	1 each	
	Combination alarm	1	

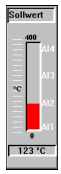
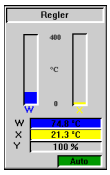
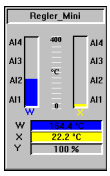
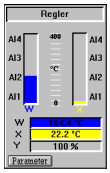
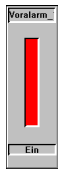
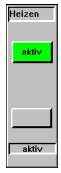
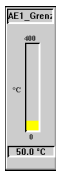
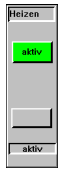
Device	Function	Number of variables	Representation in SVS-2000
LPF 100/200 operating unit	Core temperature	2	
	F-value, C-value	1,1	
	Profile generator	16	
	Profile generator (temporary changes)	10	
	Operating contacts 1— 36	1 each	

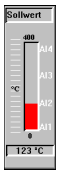
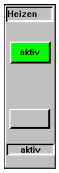
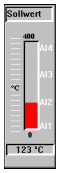
Device	Function	Number of variables	Representation in SVS-2000
LPT-100	Revolution (controller)	2	
	Analog input 1, 2	1 each	
	Profile generator	12	
	Limit comparator 1 — 4	1 each	
	Combination alarm	1	
	Operating contact 1 — 12	1 each	
mTRON relay module	Relay contact 1— 4	1 each	
	Combination alarm	1	
	Min. limit comparator 1— 4	1 each	
	Max. limit comparator 1— 4	1 each	

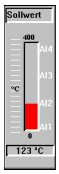
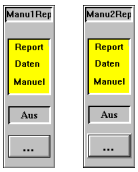
Device	Function	Number of variables	Representation in SVS-2000
mTRON 4-channel analog input module	Analog input 1— 4	1 each	
	Maths output (analog)	1	
	Linearization 1— 4	1 each	
	Alarm contact 1— 4	1 each	
	Warning alarm 1— 4	1 each	
	Logic input 1	1	
	Limit comparator	1	
	Combination alarm	1	
	Min. analog limit values 1— 4	1 each	
	Max. analog limit values 1— 4	1 each	
mTRON 8-channel analog input module	Analog input 1— 8	1 each	
	Alarm contact 1— 8	1 each	
	Warning alarm 1— 8	1 each	
	Combination alarm	1	
	Logic input 1, 2	1	
	Limit comparator 1— 4	1 each	
	AI limit_Min 1— 8	1 each	
	AI limit_Max 1 — 8	1 each	
mTRON analog output module	Logic input 1	1	
	Combination alarm	1	
	AI limit_Min 1— 2	1 each	
	AI limit_Max 1— 2	1 each	

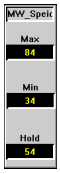
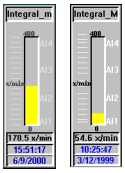
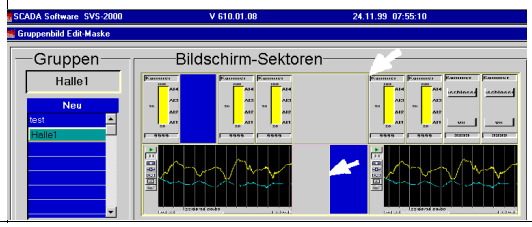
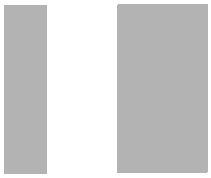
Device	Function	Number of variables	Representation in SVS-2000
mTRON operating unit	Logic input 1— 2	1 each	
	Logic output 1	1	
	Alarm contact 1—16	1 each	

3 How to plan a plant or process?

Device	Function	Number of variables	Representation in SVS-2000
mTRON controller module	Analog input 1— 2	1 each	
	Analog output 1	1	
	Controller	12	
	Controller_Mini	4	
	Controller + parameters	26	
	Alarm contact 1— 2	1 each	
	Warning alarm 1— 2	1 each	
	Combination alarm	1	
	Logic input 1— 2	1 each	
	Relay contact 1— 2	1 each	
	Limit comparator 1	1	
	AI limit_Min 1— 2	1 each	
	AI limit_Max 1— 2	1 each	
mTRON controller operating unit	Logic input 1— 2	1 each	
	Logic output 1	1	

Device	Function	Number of variables	Representation in SVS-2000
mTRON communication module	Analog input 1— 16	1 each	
	Analog output 1— 16	1 each	
	Word input 1— 4	1 each	
	Word output 1— 4	1 each	
	Logic input 1— 8	1 each	
	Logic output 1— 8	1 each	
	Module name Using this function, remote data retrieval can be carried out via a modem. The group display shows 4 variables and 12 additional ones can be requested. Settings for modem operation are also included here.	1	
mTRON logic module	Logic input 1— 8	1	
	Logic output 1— 6	1	
	Marker byte 1— 32	1	
	Database marker byte 1— 32	1	
	Marker_Word 1— 32	1	
	Marker_Float 1— 32	1	
	Database marker word 1— 32	1	
	Database marker float 1— 32	1	

Device	Function	Number of variables	Representation in SVS-2000
PCdirect	Analog inputs 1— 10	0	
	Analog output 1— 10		
	Logic inputs 1— 10		
	Logic output 1— 10		
	Alarm 1— 10		
	Conversion: Number in text 1— 5		
	Up-counter 1— 3 (pulse counter) ⇨ Chapter 6.4.3 “PCdirect functions”		
	Manual report data: Data that are entered via PC for report generation. ⇨ Chapter 4.4 “Reports” **ManuRep1:** Input template for 8 different batch and program designations. **ManuRep 2** Input template for: - Program - Batch - Product		
	Report3-multi (pizza oven principle) ⇨ Chapter 6.4.3 “PCdirect functions”		
	F-value The F-value is calculated similarly to the integral function. This variable is used in particular in the meat processing industry. ⇨ Chapter 4.5.1 “Function: integral hours, minutes”		

Device	Function	Number of variables	Representation in SVS-2000
PCdirect	Min_Max_Value1, 2 ⇨ Chapter 6.4.3 “PCdirect functions”	0	
	User timetable 1, 2 Variable that is controlled via the calendar function, which can, for example, set a service signal. ⇨ Chapter 5.4.1 “User timetable”	0	
	Barcode reader ⇨ Chapter 8.1 “Barcode reader connection”	0	
	Integral hour Integral minute ⇨ Chapter 4.5.1 “Function: integral hours, minutes”	0	
	New alarm When an alarm (red alarm bell) occurs, this function plays a wav-file which produces an acoustic warning signal on the PC. It can be found in the directory: Drive:\Projects\Usr\ Svswork\Tp\Alarmsnd.wav	0	
	Frame_1_fold, - 2_fold Serves to cover an empty background in the group display. 	0	

3 How to plan a plant or process?

4.1 Contents

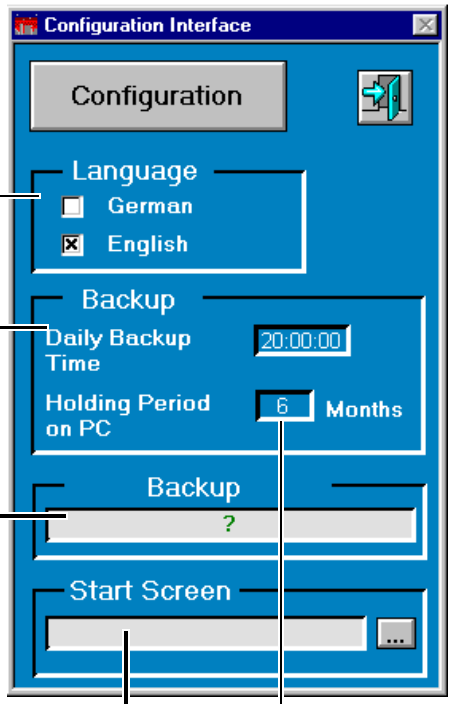
At the configuration level, passwords and interfaces are set, reports defined and the device functions that are to be visualized (variables and alarms) are compiled. It consists of settings that are largely adapted to suit a specific process or plant, and that therefore rarely have to be modified. The access to these settings is inhibited by a password.

Starting

* Press F 12

This level is locked by a password.
To access the configuration level, the user must be authorized, and has to use a password.

⇨ Chapter 4.2.3 “Password administration”



Language
The language selected during installation is marked with a cross.

Time of backup
Report and event data are saved in the project directory svs_save at the time that was set.
The time can be edited by clicking on the field.

Backup2
Additional backup directory
⇨ Chapter 7.2.4 “Backing up archive data (Backup2)”

Start screen
A group display or trend display can be selected here, which will be shown as soon as the SVS-2000 is started.

Holding period
The holding period defines how long the archived data are stored on hard disk before being overwritten again. The period can be edited by a click on the field.
⇨ Chapter 7.2.3 “Backup archive data in the svs_save directory”

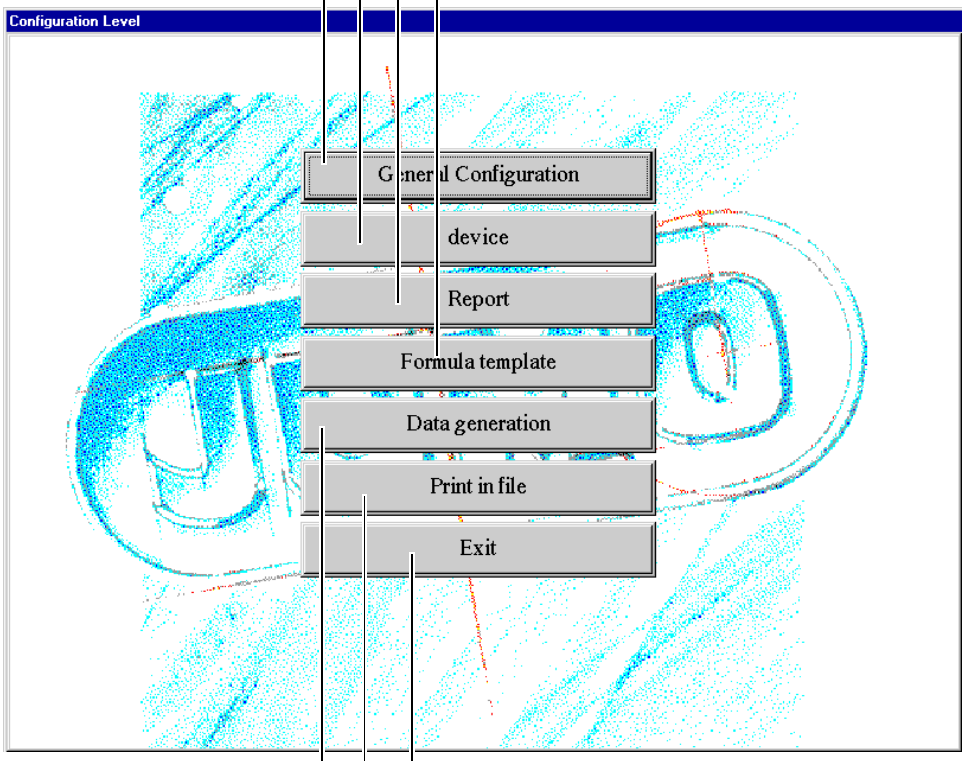
* Select an alternative language.
  The language that was selected during installation will always appear marked with a cross.
* Click on *Configuration*

General configuration
⇨ Chapter 4.2 “General configuration”

Device
⇨ Chapter 4.3 “Devices”

Report
⇨ Chapter 4.4 “Reports”

Formula template
⇨ Chapter 4.5 “Formula template”



Exit
Leave configuration level
⇨ Chapter 4.8 “Exit”

Print in file
ASCII file of configuration data
⇨ Chapter 4.7 “Print configuration”

Generate data
The settings at the configuration level are generated.
⇨ Chapter 4.6 “Data generation”

4.2 General configuration

General Configuration

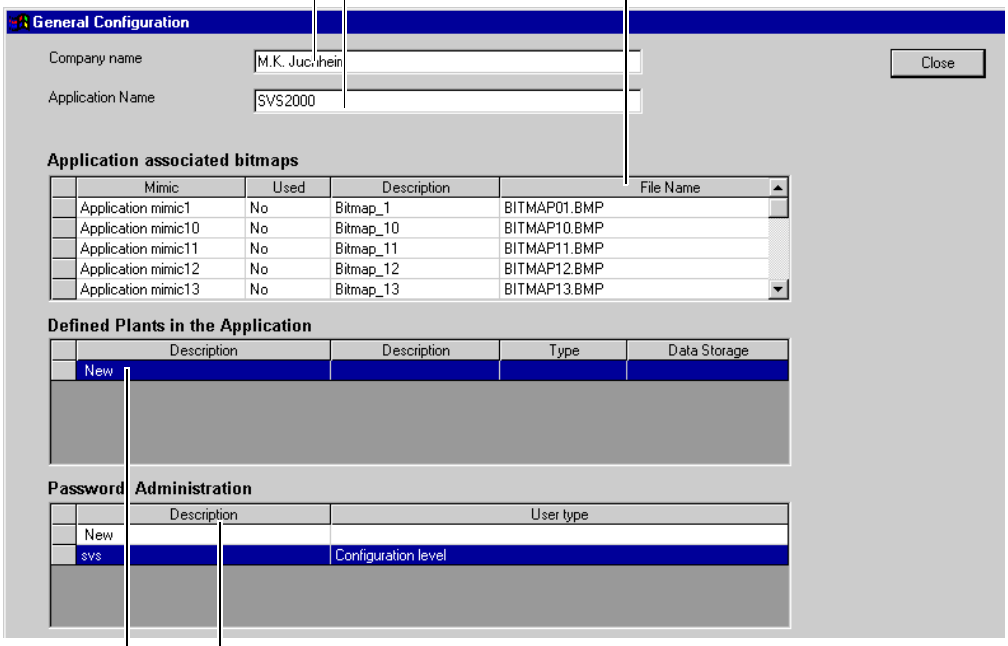
The background display for the process/plant are set here, the company name entered and the process systems and passwords defined. A report can be made for each system.

⇨ Chapter 2.6 “Program start”

Company name

System application name
Designation for higher-level application

Background displays

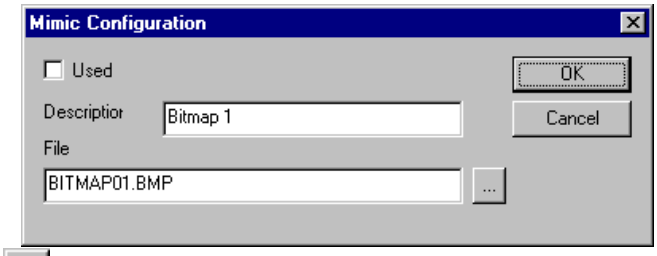


Password administration
to lock various program levels

Systems
List of all defined process systems

4.2.1 Create new background display and static flow diagrams

✱ Double-click on background display

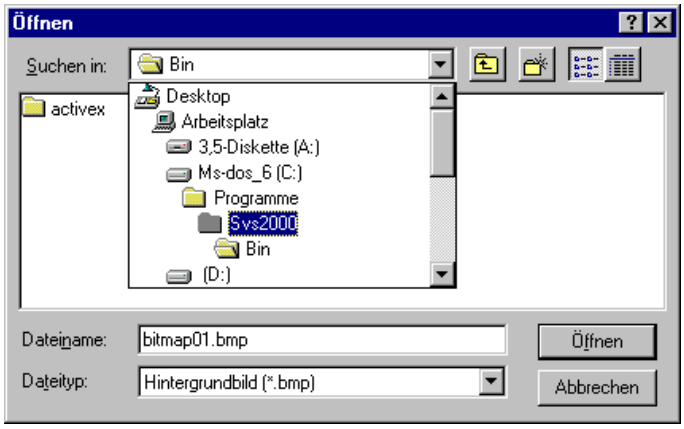


✱ Click on  (search picture)

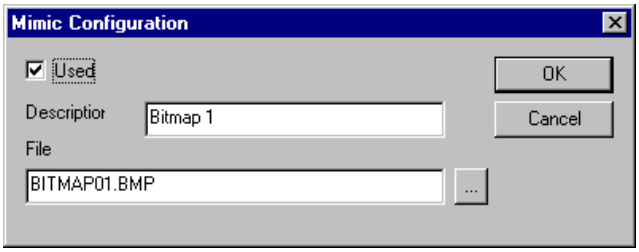
A window appears in which the path for the new background picture on the hard disk can be specified.

If you save a background picture factory.bmp in the directory drive:\Projects\usr\Svswork\B\ ... the picture is automatically saved during data backup of the configuration data.

⇨ Chapter 7.2.1 “Saving data on a diskette”



* Click on *Open*
* Click on *Used*
  A picture that is used is marked with a tick.



* Confirm entry with *OK*
  Yes appears in the table

A picture that has been used will later appear in the F2 summary list.

⇨ Chapter 6.1 “Logon through a password”

A static background picture can be animated with bargraph presentations, numeric fields and trend pictures using the additional PCVUE software.

Please contact the main office in Fulda in this connection.

4.2.2 Definition of process systems

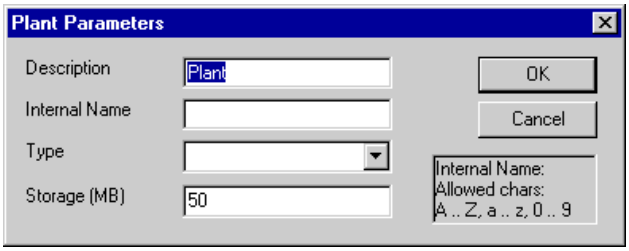
Sequence of commands

Double-click on *General configuration* ➔*Defined system in plant* ➔*New*

The division into process systems is made here. In view of a later recording, it is important that each system has a documentation archive. Only one report per system can be created.

⇨ Chapter 4.4 “Reports”

✱ Double-click on *New*



Name

✱ Enter system name (8 characters max.)

This name appears as the process system name in the SVS-2000 and can be altered.

Internal name

✱ Enter internal name
(5 characters max.; system can no longer be altered)

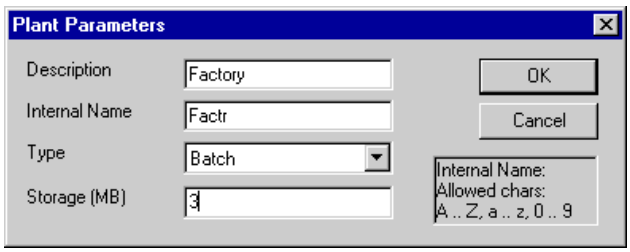
Storage per system

Storage space (in megabyte), which has been reserved on hard disk for this system. As soon as the storage space is fully written to, the oldest data will be overwritten, as in a ring memory.
The storage space of 3 MB is sufficient for a system if the projects are backed up daily.

⇨ Chapter 7.2.3 “Backup archive data in the svs_save directory”

Systems that are saved with OK can no longer be deleted!

Only batch protocols are supported.



✱ Confirm entries with *OK*

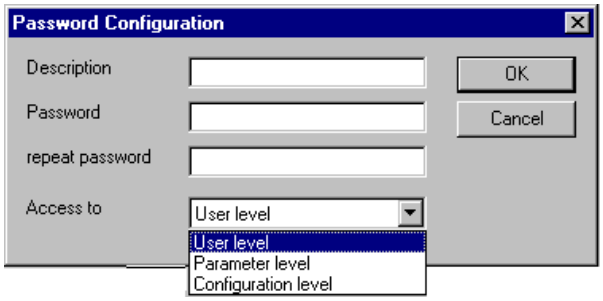
4.2.3 Password administration

Sequence of commands

Double-click *on General configuration* ➔*Password administration* ➔*New*

The users and their access authorization are defined here. The configuration level has the highest access authorization, followed by the parameters and their user levels. The preset password “svs” and the user “svs” enable all levels. A password should be assigned to each user in order to protect the system against unauthorized manipulation.

* Double-click on *New*



* Enter name
* Enter password
* Enter new password
* Enter access authorization for the user concerned
* Confirm entries with *OK*

If a password is used for the first time, then the same text must be entered for *Password* and *New password*.
If a password is to be altered retrospectively, the old password must be entered before the new password can be accepted.

Password lock “svs”

The name “svs” should only be deleted from the password administration after commissioning, when all the other names and their access rights have been assigned!

Reason: Always test that the password functions properly first. It’s easy to make a typing mistake, and then you won’t be able to access the configuration level after deletion!

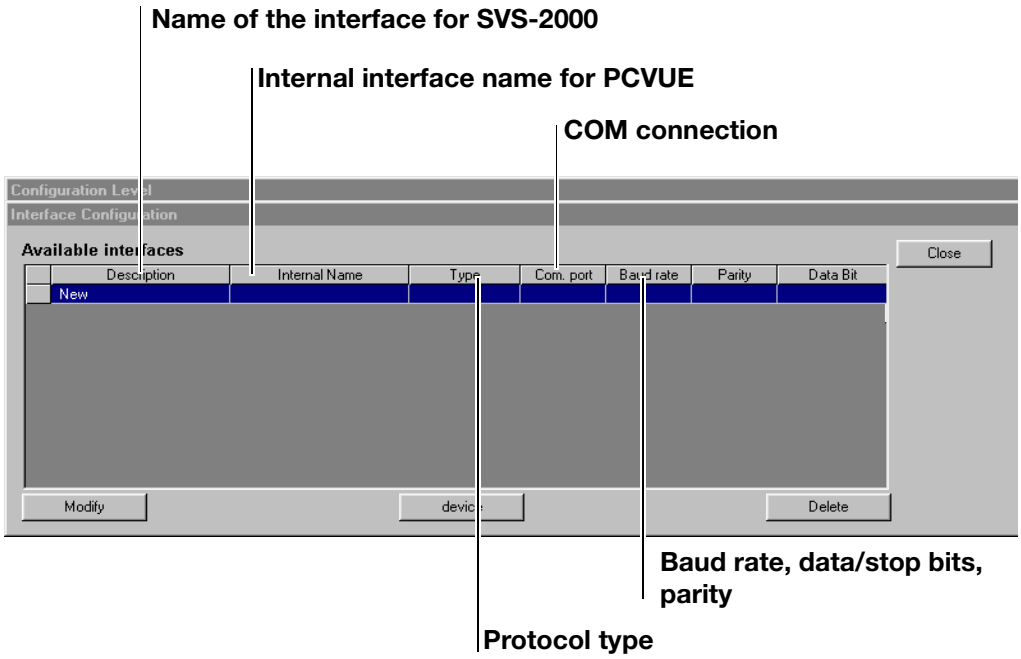
4.3 Devices

device

This function contains all the settings for the devices that are connected, for visualization with SVS-2000.

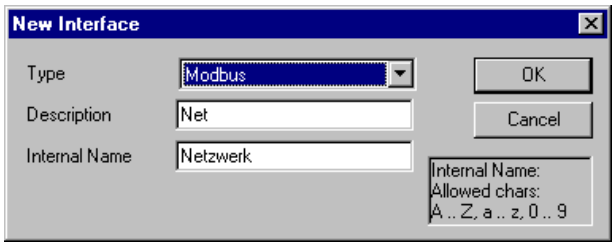
4.3.1 Interface configuration

This window is used for setting up the PC interfaces for communication with JUMO instruments.



Create new interface

* Double-click on *New* in the table row



Description

* Set the desired *Type* for the interface protocol

⇨ Chapter 3.2.3 “Device combinations”

* Enter the *Name* (max. 8 characters)

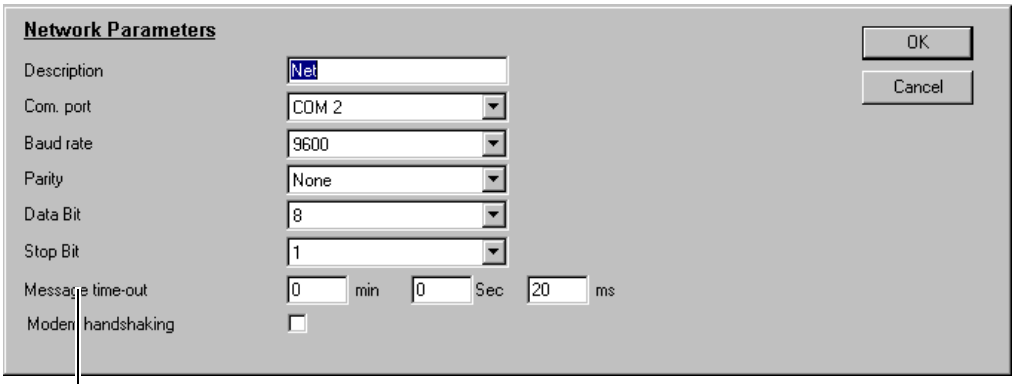
This name reappears as the process system name in the SVS-2000, and can be altered.

Internal name

* Enter the *Internal name*
(max. 8 characters; process system name can no longer be altered)
* Confirm entry with *OK*

Modify

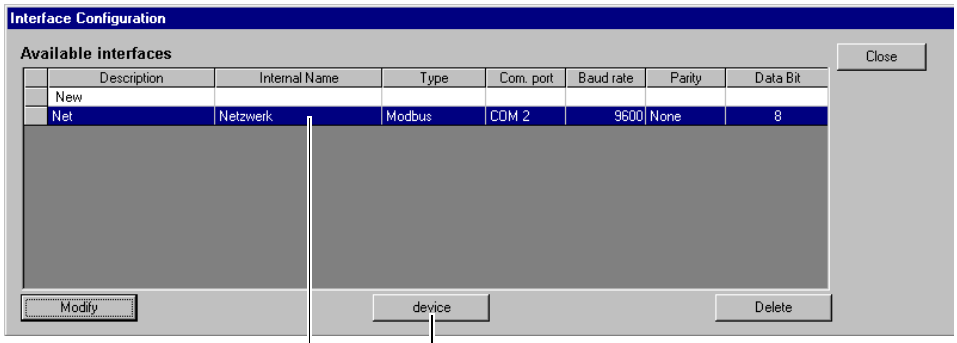
An additional menu appears below the window that is currently open, for entry of the interface parameters.



Interface time-out

The time between the response of a connected device and a fresh request from the PC (master)

✱ Confirm the entries with *OK*



continue to Chapter 4.3.2 “Device configuration” or double-click on table entry

Delete

Deletes a table row after a confirmation query.

Important for the archiving of data!

After deleting **interfaces,** it is no longer possible to read old recorded data and reports!

✱ Back up the system configuration before saving the configuration level

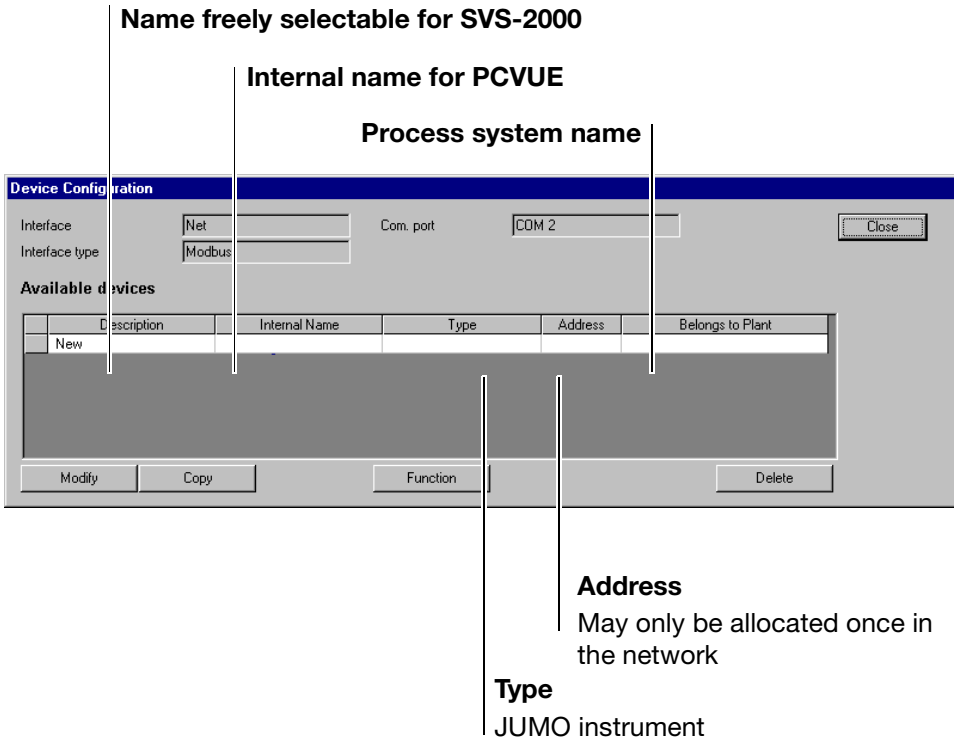
⇨ Chapter 7.2.1 “Saving data on a diskette”

4.3.2 Device configuration

Command sequence

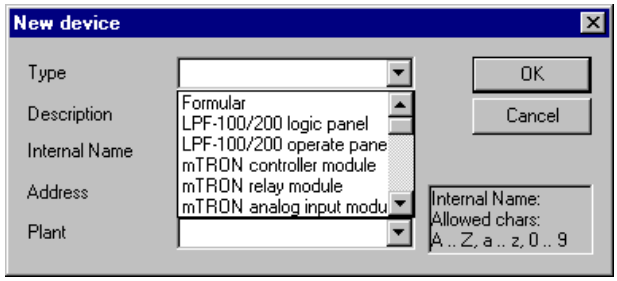
Device ➔ *Device* ➔ *Device function*

The Jumo instruments which are connected to the selected interface are entered into the list.



Add new JUMO instrument

✱ Double-click on *Available devices* ➔ *New*



Type

✱ Set the *Type* that is required

✱ Enter the *Name* (max. 8 characters)

This name is entered as the device name in the list, and can be altered.

Internal name

✱ Enter the internal name
(max. 8 characters; the system name can no longer be altered)

For devices which are connected via the JUMO mTRON automation system (LON network), the module addressses are automatically allocated by the JUMO mTRON-iTOOL software.

Allocating device addresses for mTRON

The device address is automatically allocated when the mTRON system is installed. These addresses can be read out from the JUMO mTRON-iTOOL project printout:

Project ➔Print preview ➔Issue list of modules

Module summary (example)

Module name	Type	Version	Address	Neuron-ID
Project				
Operating unit	Operating unit	093.01.01	1/ 4	00 01 55 60 27 00
Relay	Relay	090.01.01	1/ 3	00 01 55 50 30 00
Analog input	Analog input	089.01.01	1/ 125	00 01 55 69 12 00
Analog output	Analog output	088.01.01	1/ 2	00 01 55 50 38 00
Controller	Controller	087.01.01	1/ 1	00 01 54 93 66 00

Slave-device address

Address

✱ Enter the device address
(configuration level of the particular device)

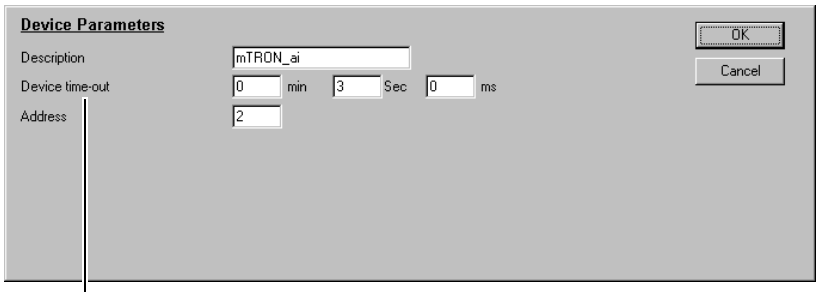
System

✱ Select the system to which the device belongs

✱ Confirm entries with *OK*

Modify

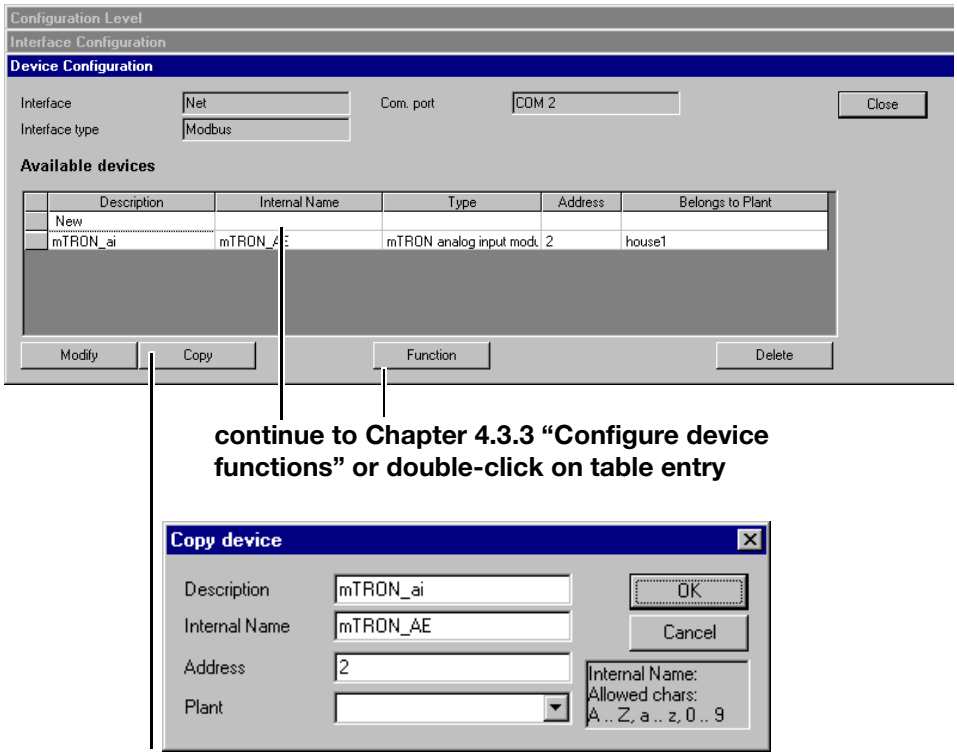
An additional menu appears below the window that is currently shown, in which the device name and address can be altered.



Device time-out
The time allowed after the request from the PC for the response of the device. If there is no response, the next device is polled.

✱ Confirm entries with *OK*

Copy



continue to Chapter 4.3.3 “Configure device functions” or double-click on table entry

Delete

Deletes one table row after a confirmation query

Important for the archiving of data!

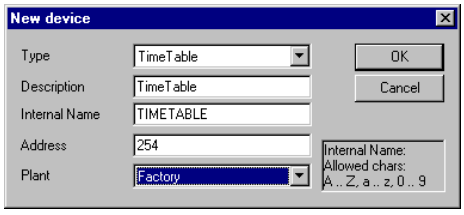
After deleting **JUMO instruments,** it is no longer possible to read old recorded data and reports!

* Back up the system configuration before saving the configuration level

⇨ Chapter 7.2.1 “Saving data on a diskette”

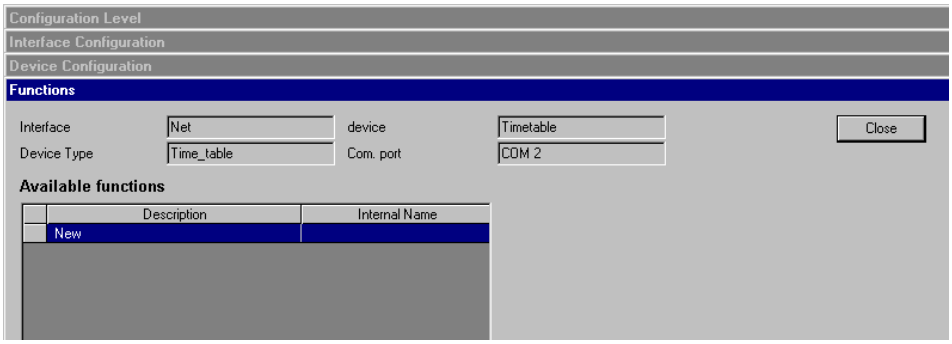
User timetable

Is a timer function that activates a logic variable for a preset time, and deactivates it when the time has elapsed.

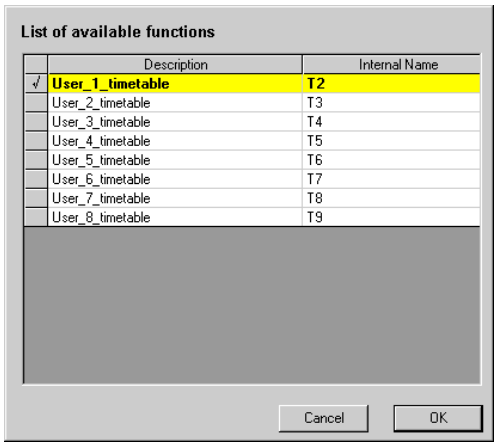


* Set the type to Timetable, enter the address and assign to the system
* Confirm entries with *OK*
* Double-click on table entry, or click on function

Function

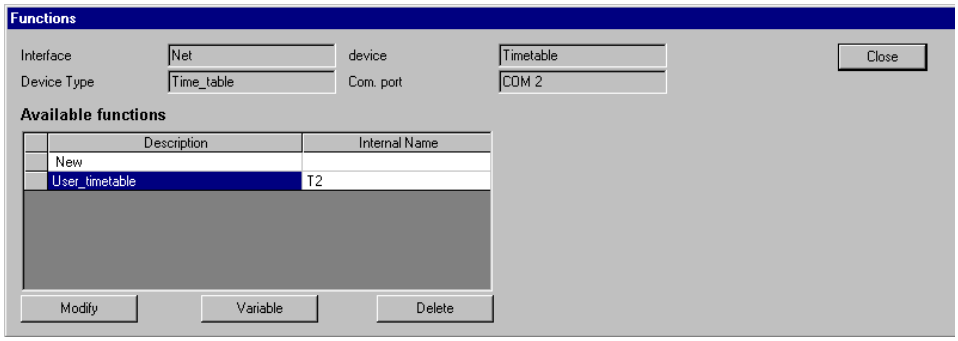


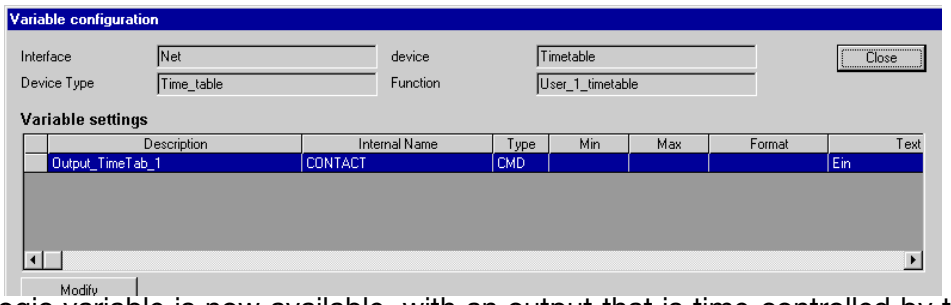
✱ Double-click on *New*



✱ Click on the function (a tick appears)

✱ Confirm with *OK*





A logic variable is now available, with an output that is time-controlled by the user timetable. The mathematics function can be used to create a linkage for the signal (for instance, to start a warning sound).

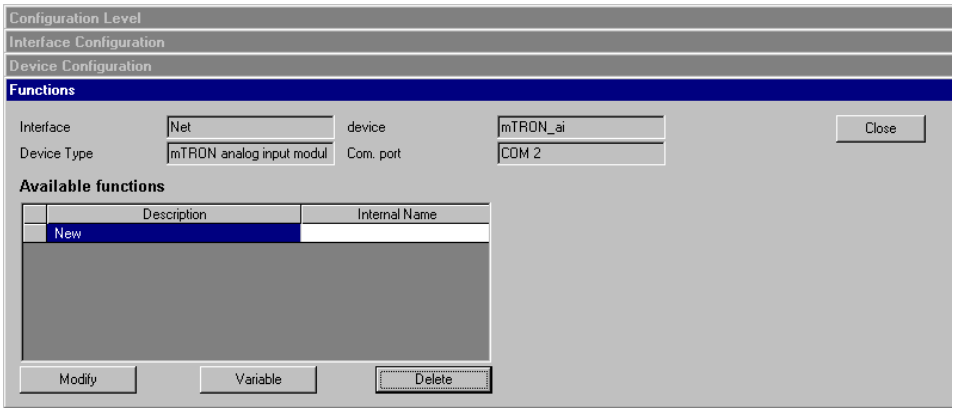
⇨ Chapter 5.4.1 “User timetable”

4.3.3 Configure device functions

Command sequence

Device ➔*Device configuration* ➔*Functions*

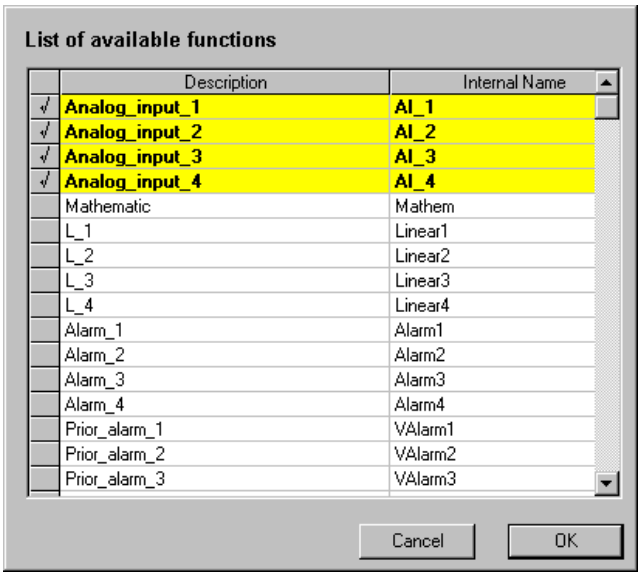
All JUMO instruments are divided into function blocks. All the active functions of an device which are required for SVS-2000 are set up here.



Add new functions

✱ Double-click on *Available functions* ➔*New*

The function blocks are subdivided into *Description* and *Internal Name*. Each device has specific functions.



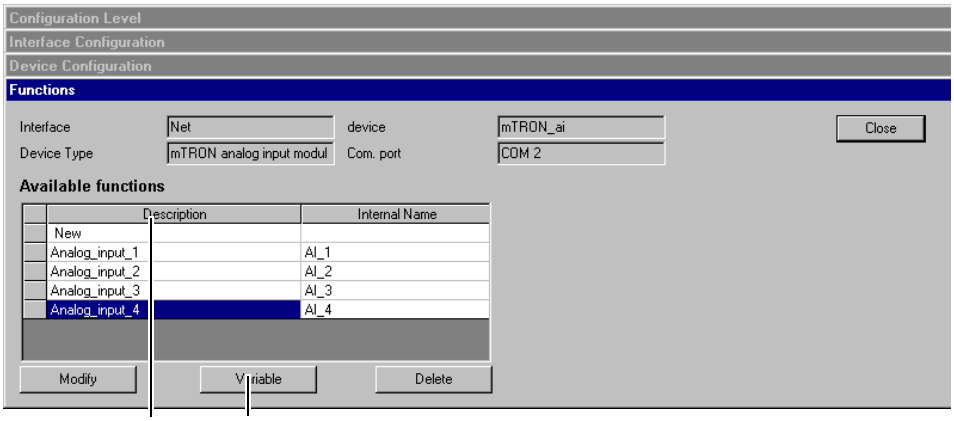
✱ Select the required functions by a mouse-click in the table.
Each one of the selected functions is marked in yellow, and also by a tick.

Each selected function has a number of variables which are permanently assigned, and together form the total number of variables. This number determines the size of SVS-2000 to be ordered.

⇨ Chapter 3 “How to plan a plant or process?”

✱ Confirm the marked functions with *OK*

All the selected functions appear one after another in the list of *Available functions*. If any functions are missing, then further functions can be selected by another doubleclick on *New*.



continue to Chapter 4.3.4 “Variable format” or double-click on a function in the table

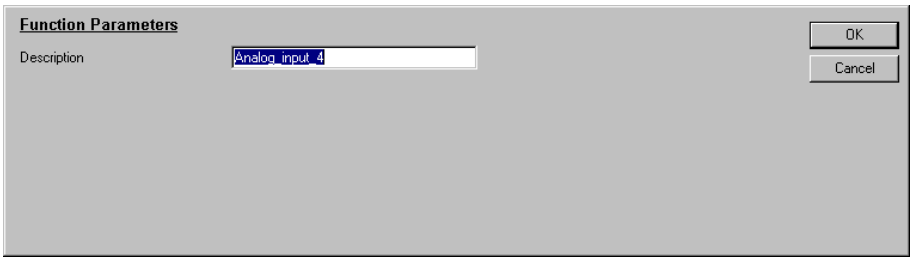
Function name

A function name is automatically assigned, which can be freely changed and is inserted right at the top of the function display.

Modify

An additional menu appears below the window that is already shown, and this can be used to alter the function name for the function which has been activated (by clicking on it).

This name appears as the functional designation in the group display!



✱ Confirm the entry with *OK*

Delete

Deletes a function (table row) after a confirmation query.

Important for the archiving of data!

After deleting **Functions,** it is no longer possible to read old recorded data and reports!

✱ Back up the system configuration before saving the configuration level

⇨ Chapter 7.2.1 “Saving data on a diskette”

4.3.4 Variable format

Command sequence

Double-click on *Device* ➔*Device* ➔*Device configuration* ➔*Function* ➔*Variable*

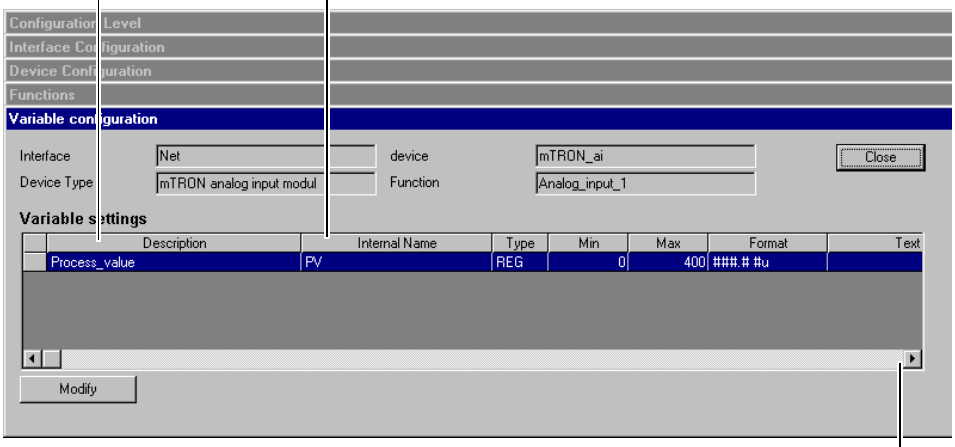
This list shows all the variables for the functions.
There are analog, logic and text variables.

Analog variables

Analog variables can be used to limit setpoints and monitor process (actual) values for overlimit conditions. The format settings affect the presentation of variables during subsequent operation.

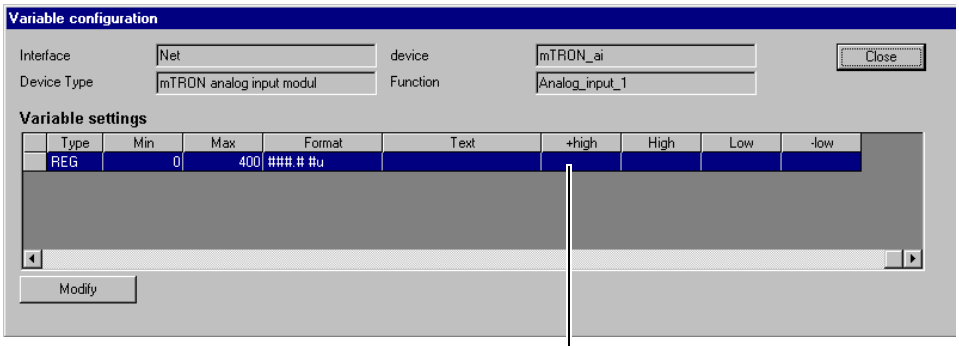
Freely selectable name for SVS-2000

Internal name is assigned automatically



Scroll bar

Scroll screen to the right for further functions



Limits

For setpoint and process value monitoring

Modify

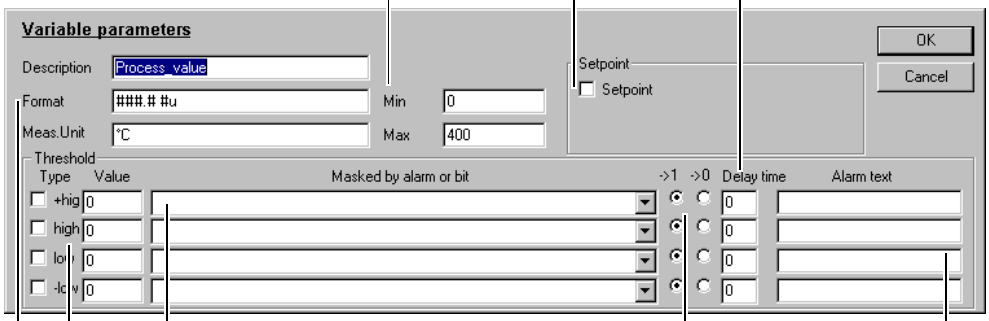
Adjustable measurement range limits

Additional setpoint limiting for entry

Only active for setpoints

Delay time

Delays the alarm output by the adjustable time, in seconds



Active logic level

Display text for alarm

in the alarm and event list, for a fuller explanation

Alarm inhibit

In this field you can select a logic variable that can suppress an alarm.
If this field remains empty, all alarms will be output.

Limit value

For measurement monitoring
Only the marked limits are active.

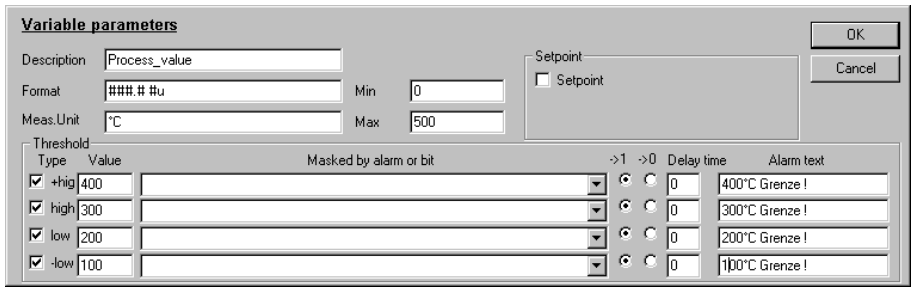
Presentation of variables

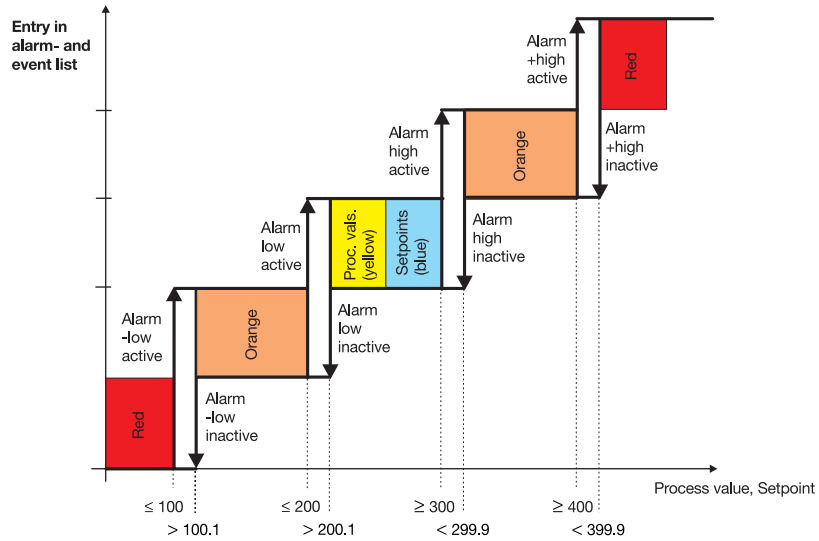
Character format	Meaning
#	decimal place
.	decimal point
#u	dimensional unit, e.g. °C

Example: ##.# #u corresponds to 23.5 °C

Set limits

Four limit values can be entered here, which monitor the variable. If the limits are infringed, then this event will be entered into the alarm and event list, as shown in the example.





The switching differential for the color change of the process value or setpoint bar is 0.1°C.

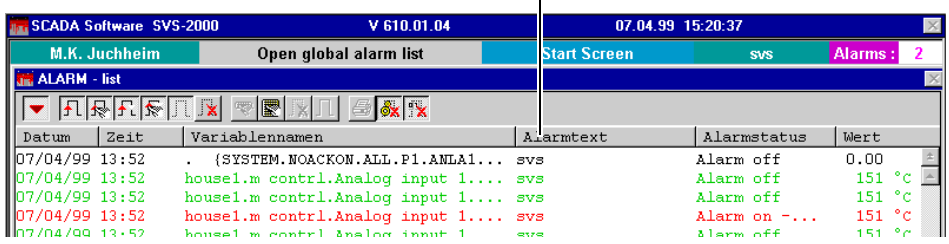
Alarm inhibit

The masking field can be used to select all the logic values which have been set for this process system.
If the logic variable has the logic level “0”, all the alarms are entered into the alarm and event list, as described. If the logic level is “1”, then the entries are suppressed.

Display text for alarm

This display text appears in the column “Alarm text” or “Event text”, to provide a fuller explanation.

Entry in the alarm list



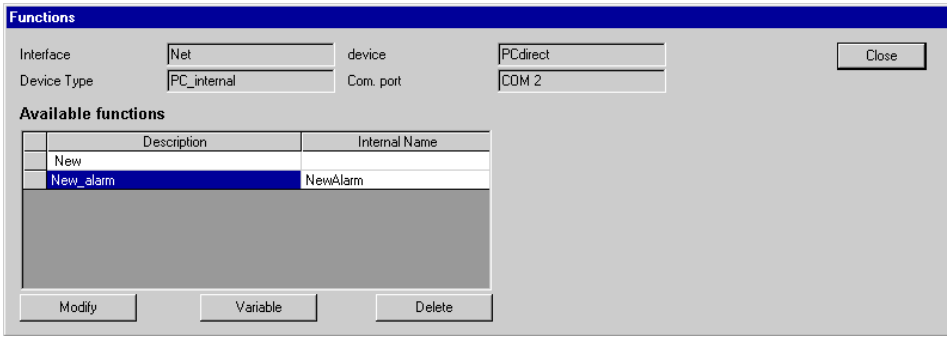
Generate acoustic alarm

If the computer is fitted with a sound card and loudspeakers, then it is possible to play a *wav* sound file (which is repeated every 10 seconds) if an alarm occurs (flashing alarm bell icon).
The repeat cycle is stopped as soon as the alarm has been acknowledged or is no longer active.

The file can be found in the directory:

Drive:\projects\usr\svswork\tp\Alarmsnd.wav

* Activate the PCdirect function *New alarm*

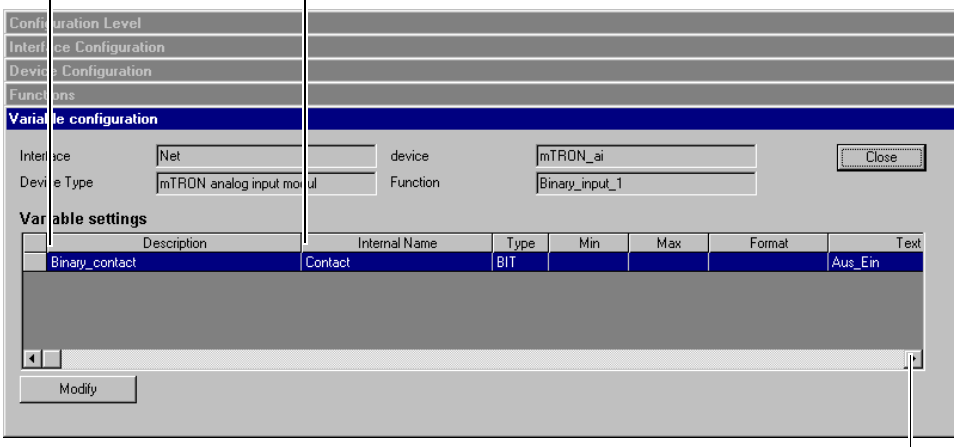


Logic variables

A logic variable has two switching states, that can have a text assigned in the alarm list, to provide a fuller explanation. The switching edge, delay time and masking can also be set.

Freely selectable name for SVS-2000

Internal name, automatically assigned by PCVUE



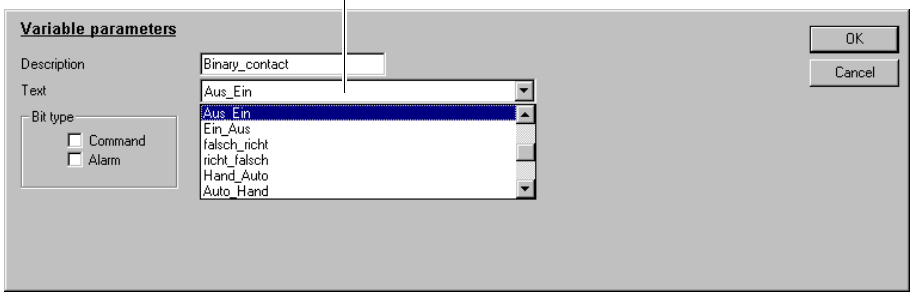
Scroll bar

Scroll screen to the right for further functions

Modify

Text display

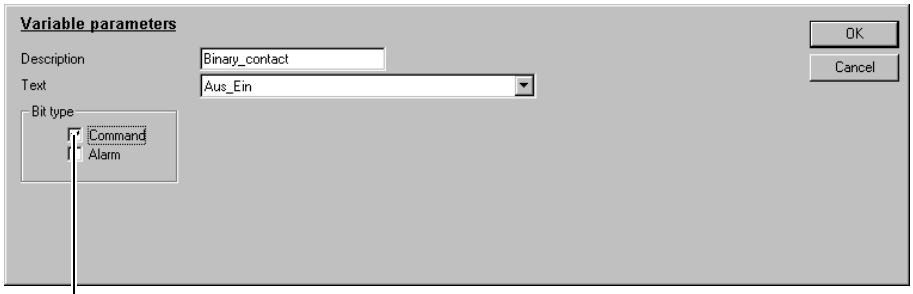
A text from the pull-down menu can be assigned to the switching state of the logic variable.



Bit-type command

✱ Mark *Command*

This variable can be set and reset by a mouse-click on the buttons, if it is visualized in the group display.



Command

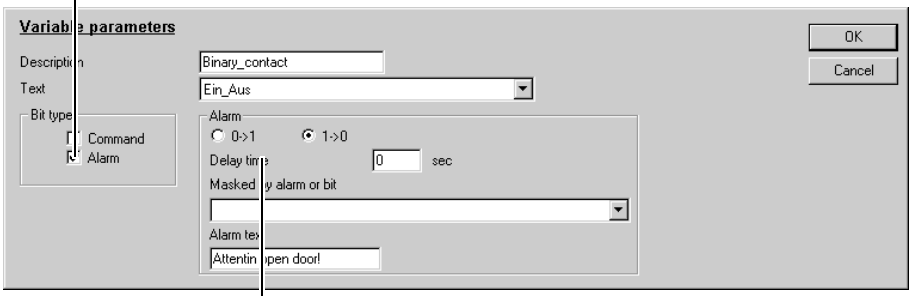
Can be entered from the PC

Bit-type alarm

✱ Mark *Alarm*

Alarm entry

If this field is checked, then the variable is entered into the alarm and event list when the logic level changes.



Switching edge and delay time

Here you input the logic state-change that causes the entry in the alarm list, and the delay time before this happens.

4 Configuration

4.4 Reports

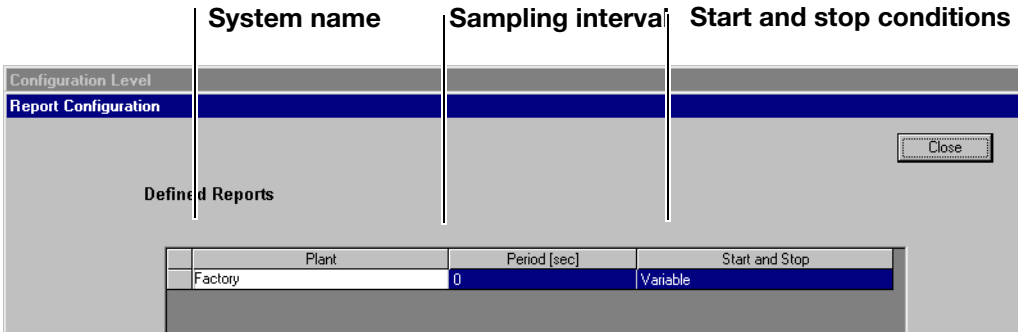
Report

All the data for a report are collected here. Sampling interval, start and stop conditions, source of batch data and the variables to be recorded are set up. A report can be created for each defined process system.

⇨ Chapter 4.2.2 “Definition of process systems”

Process systems that have already been defined appear in the table below.

Overview

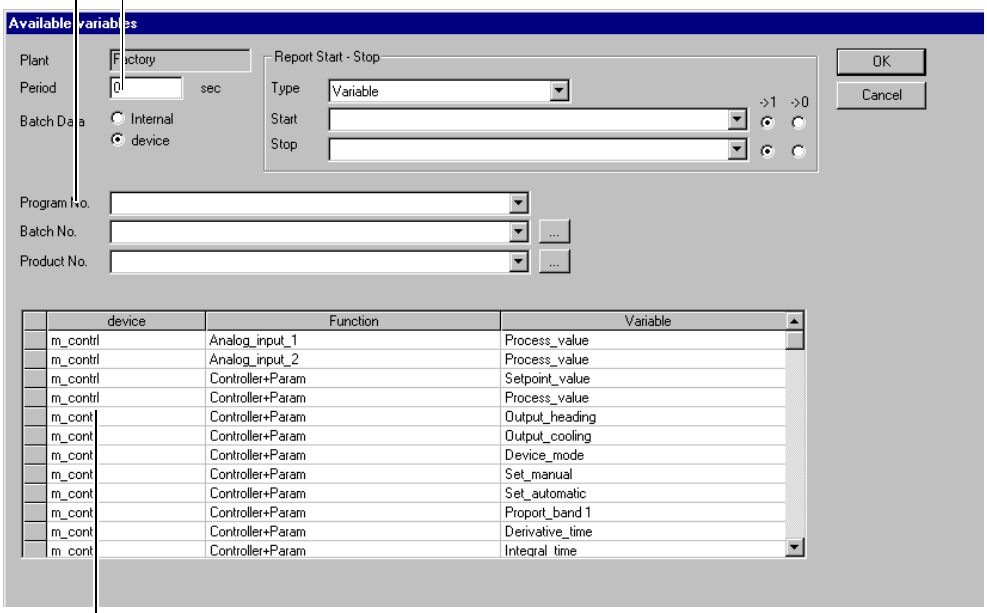


✱ Double-click on the entry in the table

Editable batch designation

⇨ Chapter 6.5 “Reports”

Sampling interval



Variable list

All the variables which have been defined in the process system are available in the variable list.

✱ Enter the sampling interval

4.4.1 Start and stop options

Internal start by report timetable

This function enables the time-controlled start and stop of the report by a calendar function (report timetable). The calendar settings are entered at the parameter level.

⇨ Chapter 5.4.2 “Report timetable”

✱ Set the *Type* field to *Date*

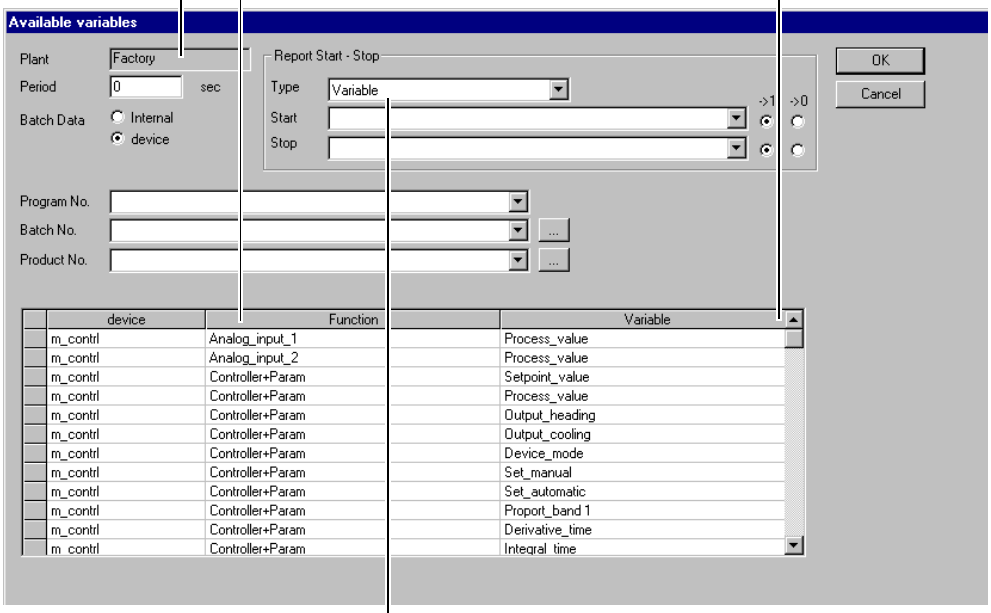
Process system name

Variable designation

⇨ Chapter 4.3.2 “Device configuration”

Description of the variable

⇨ Chapter 4.3.4 “Variable format”



Date

The time interval for creating a report is defined in the timetable

⇨ Chapter 5.4.2 “Report timetable”

✱ Confirm entries with *OK*

External start by logic variable

The variables in the system can have various sources.

- Logic input of a device (external switch, as in the example below)
- A bit for the operating mode of a profile controller (e.g. automatic operation)
- Output from a limit comparator function

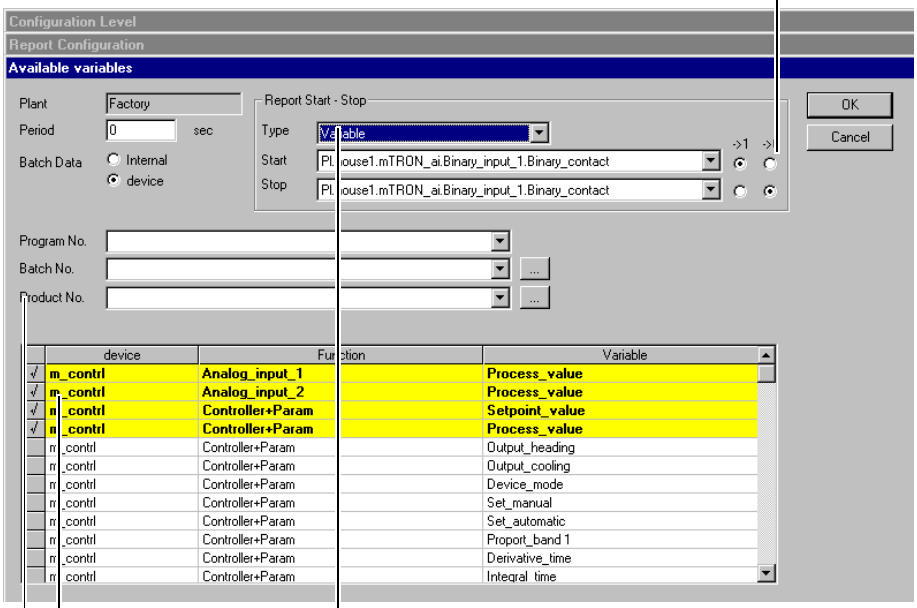
✱ Set the *Type* to *Variable*

✱ Set the variable for report start

✱ Set the variable for report stop

Switching state

Set the logic level for the start and stop of the report.



Variable from JUMO instrument

The signal for the start and stop of the report comes from an attached JUMO instrument

Variables selected for this report (by ticks)

Product data

8 different variables can be set for each of: program number, batch number, and product number. This variable information is part of the report, and facilitates a subsequent search.

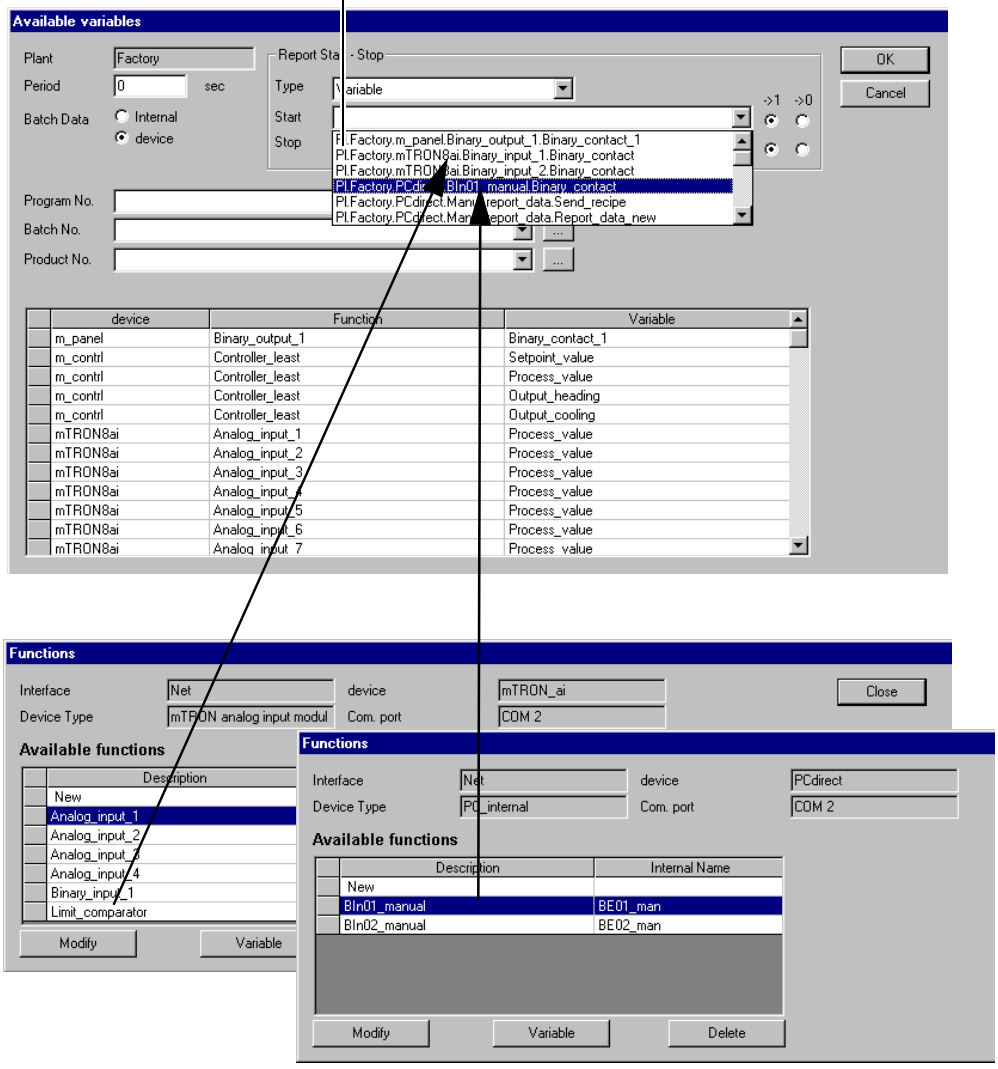
✱ Confirm entries with *OK*

Internally, by the PCdirect function

The PCdirect function behaves like another JUMO instrument, with analog and logic values and texts that are not externally sourced, but come directly from the PC. The batch data are entered and the report is started via the group displays.

Logic variables

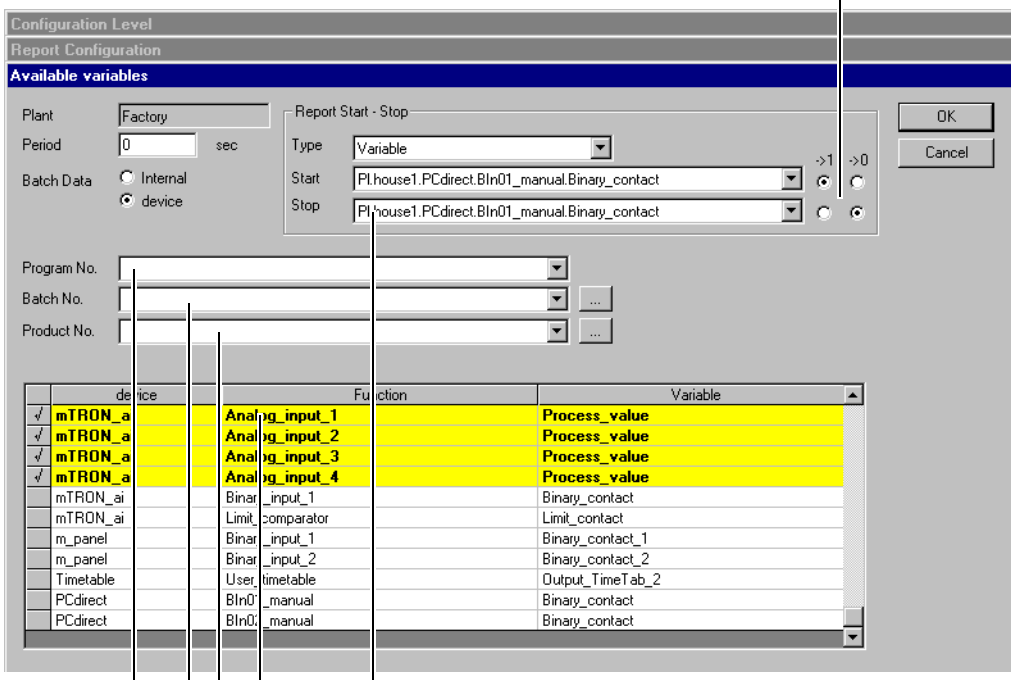
All the logic variables appear here that were defined for this process system and can initiate a report.



* Select the variable that is sourced by the PCdirect function
* Set the logic level

Switching state

Set the logic level for the start and stop of the report.



Variable

The signal for start and stop of the report, sourced by the PCdirect function.

Variables selected for this report (by a tick)

Product name/number

Up to 8 different variables can be set here, each representing a product number.

Batch number

Up to 8 different variables can be set here, each representing a batch number.

Program number

Up to 8 different variables can be set here, each representing a program number.

Source of batch data

If reports are to be produced for several different feed units within a process system, then up to 8 different entries are available (each) for the program number, batch number, and product number.

Edit batch designation

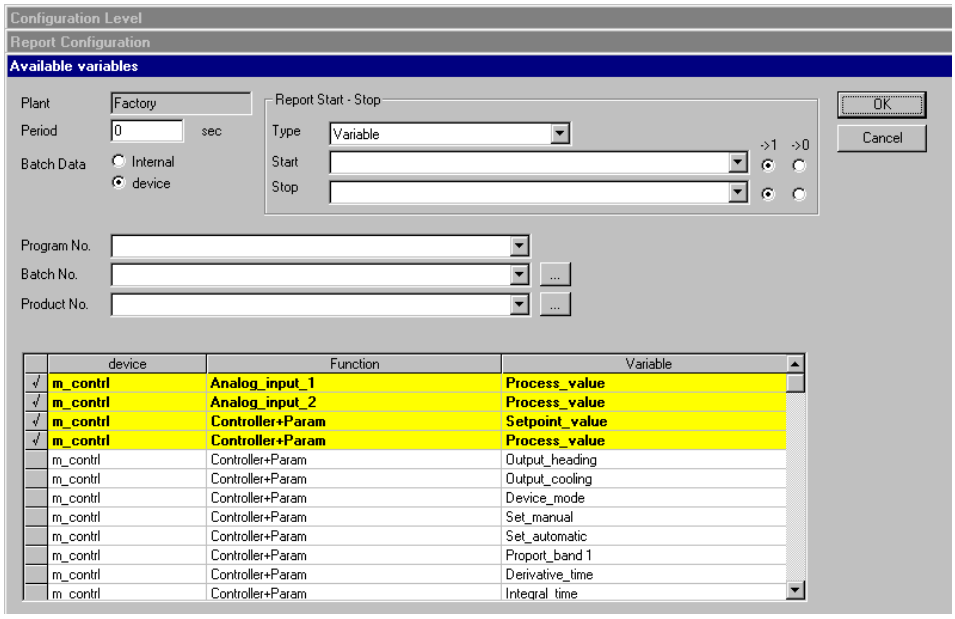
The designation for these variables can be edited, and should have some relationship to the variable that is set.

⇨ Chapter 6.5 “Reports”

PCdirect provides the easiest way to enter several sets of batch data. Only JUMO instruments such as DICON 1001, LPF-100/200, PR-100 and the mTRON logic module can provide batch data.

4.4.2 Recording variables

All the variables for recording in the report and the trend display must be selected here, so that they are stored on the hard disk.



✱ Click on the variables to be recorded in the report

Each selected variable which is marked in yellow and has a tick will be recorded.

✱ Confirm entries with *OK*

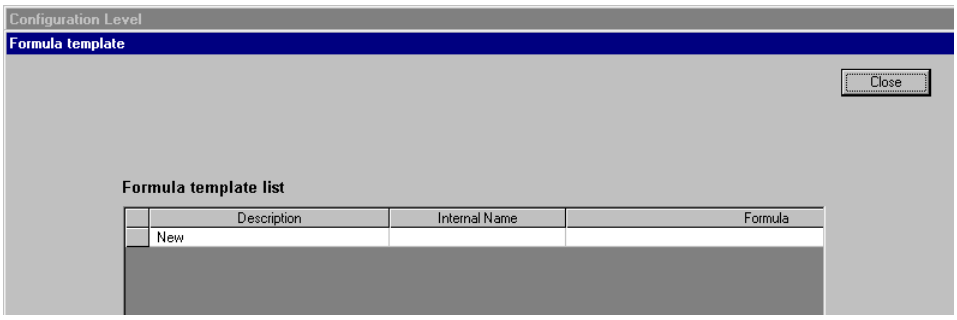
4 Configuration

4.5 Formula template

Formula template

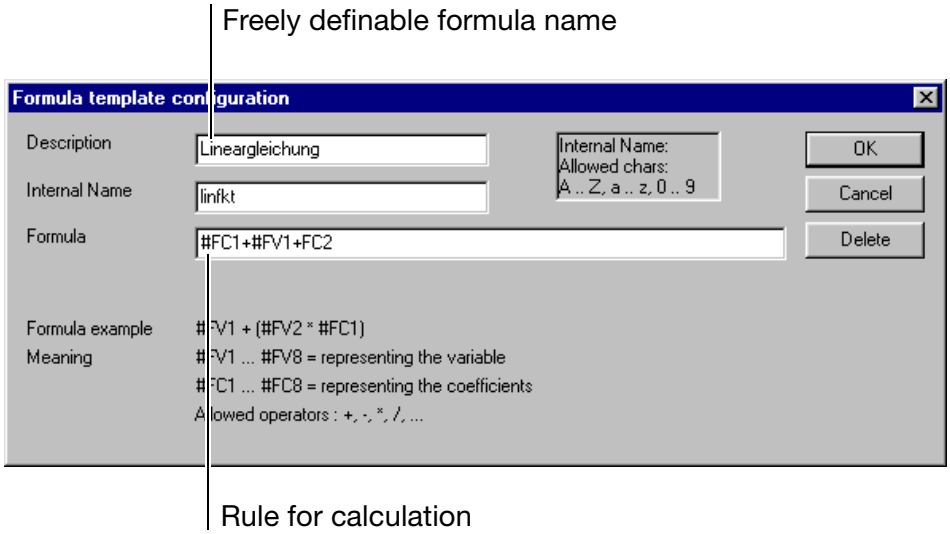
Here you can enter a maths formula with various mathematical functions.

New



* Double-click on *New*
* Enter the formula name
  (continue with the tabulator key)

Rules for mathematical processing



Internal name

* Enter the internal name
  (maximum 8 characters; system name for PCVUE can no longer be altered)
* Confirm entry with *OK*
  The name is entered into the list of formulae

Formulation

Result variable	Equality sign	Coefficient 1	Multiplication	Variable	Addition	Coefficient 2
y	=	m	*	x	+	b
		#FC1	*	#FV1	+	#FC2

Mathematical functions

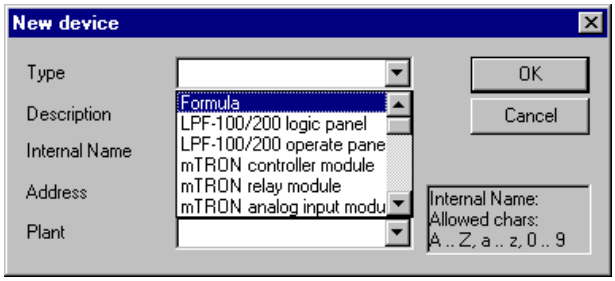
Basic arithmetical and logic functions	Formula symbols	Formulation syntax
addition	*	#FV1+#FV2
subtraction	-	#FV1-#FV2
multiplication	*	#FV1*#FV2
division	/	#FV1/#FV2
equality	==	#FV1==#FV2
inequality	!=	#FV1!=#FV2
larger than	>	#FV1>#FV2
equal to or larger than	>=	#FV1>=#FV2
less than	<	#FV1<#FV2
less then or equal to	<=	#FV1<=#FV2
negation	! or NOT	#FV1!#FV2 or #FV1 NOT #FV2
logical OR	II or OR	#FV1 II #FV2 or #FV1 OR #FV2
logical AND	&& or AND	#FV1 && #FV2 or #FV1 AND #FV2
negation	~ or BNOT	#FV1 ~ #FV2 or #FV1 BNOT #FV2
binary OR	I or BOR	#FV1 I #FV2 or #FV1 BOR #FV2
binary AND	& or BAND	#FV1 & #FV2 or #FV1 BAND #FV2
power	POW	#FV1 POW #FV2
MOD (division remainder)	MOD	#FV1 MOD #FV2
rotate N bits to right	>>N or RSHIFTN	#FV1 >>N #FV2 or #FV1 RSHIFTN #FV2
rotate N bits to left	<<N or LSHIFTN	#FV1 <<N #FV2 or FV1 LSHIFTN #FV2
Angular functions, logarithms		
sine (degrees)	SIN	SIN(grad)
cosine (degrees)	COS	COS(grad)
tangent (degrees)	TAN	TAN(grad)
arc sine	ASIN	ASIN(#FV1)
arc cosine	ACOS	ACOS(#FV1)
arc tangent	ATAN	ATAN(#FV1)
natural logarithm	LOG	LOG(#FV1)
exponent	EXP	EXP(#FV1)
absolute value	ABS	ABS(#FV1)
rounded down	FLOOR	FLOOR(#FV1)
rounded up	CEIL	CEIL(#FV1)

Example

An analog value is to be multiplied by 2, and then shifted up by a 10 °C offset.

New device, create formula

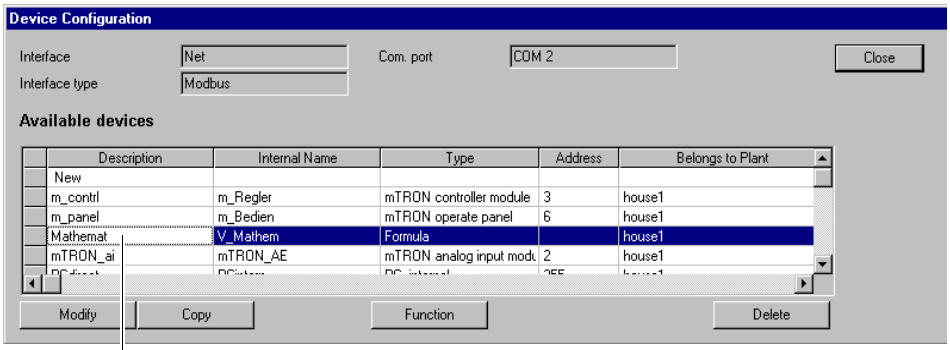
✱ In Chapter 4.3.2 “Device configuration”
Double-click on *JUMO instruments* ➔*New*



✱ Select the process system to which the formula will be attached (the formula is treated as a device function)

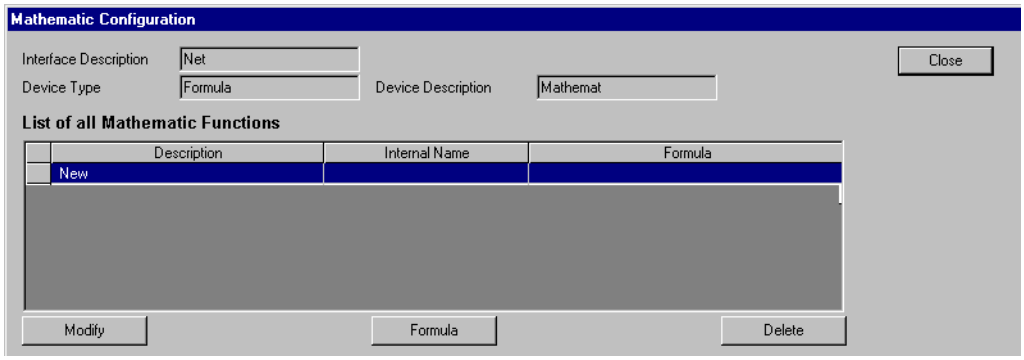
✱ Confirm the entries with *OK*

The new device appears in the table, with the name “Mathemat”.

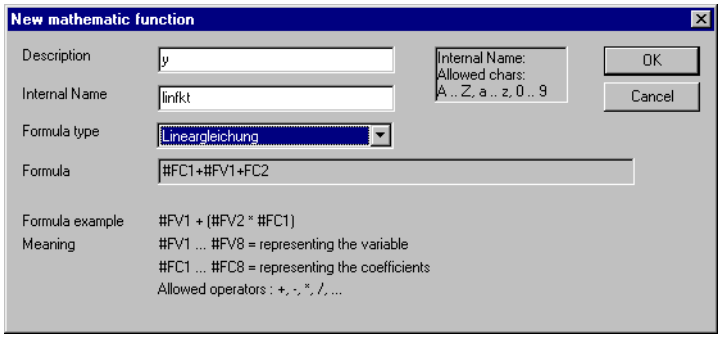


New device “Mathemat”

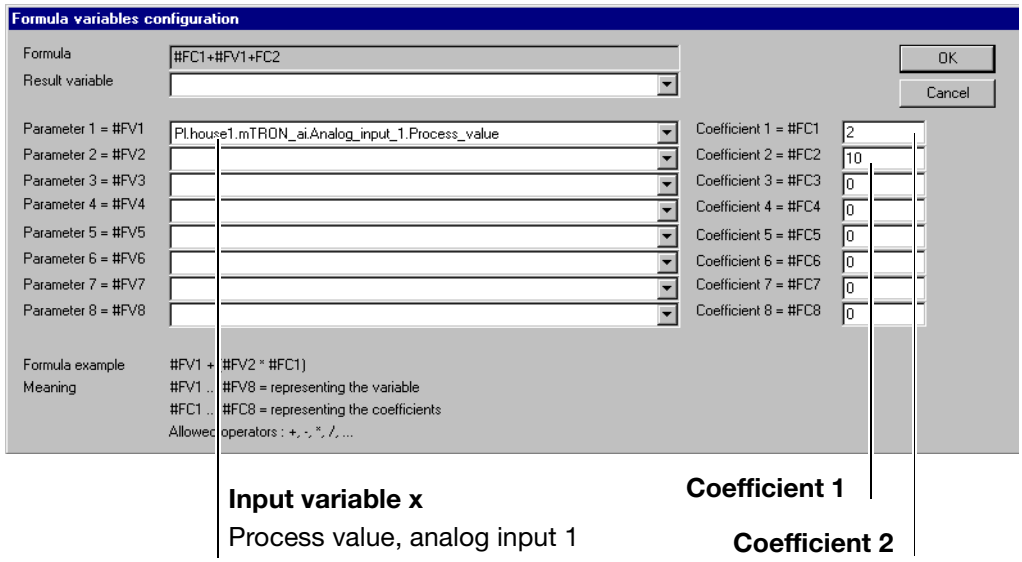
✱ Double-click on the entry *Mathemat*



✱ Double-click on *New*

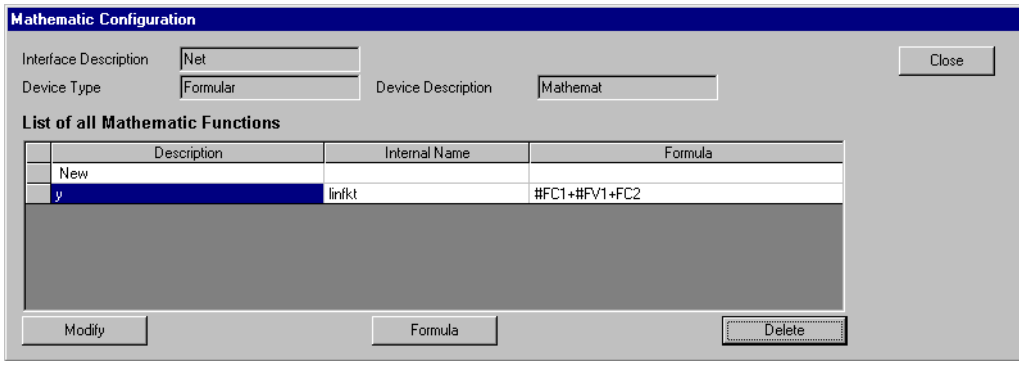


* Enter the description *y*
* Enter the internal name *linfkt*
* Select the formula type *Linear equation* (as defined in the formula template)
* Confirm entries with *OK*
  The formula appears in the first line



* Confirm the entry with *OK*

The mathematical function appears in the table

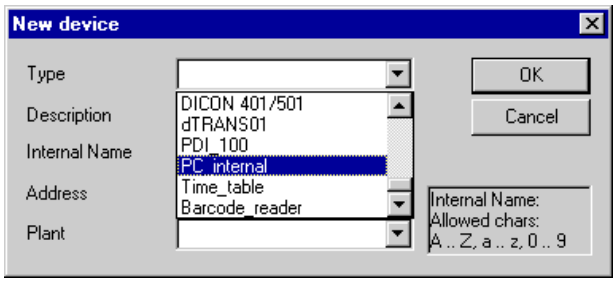


* Exit the mathematics processing with *Close*

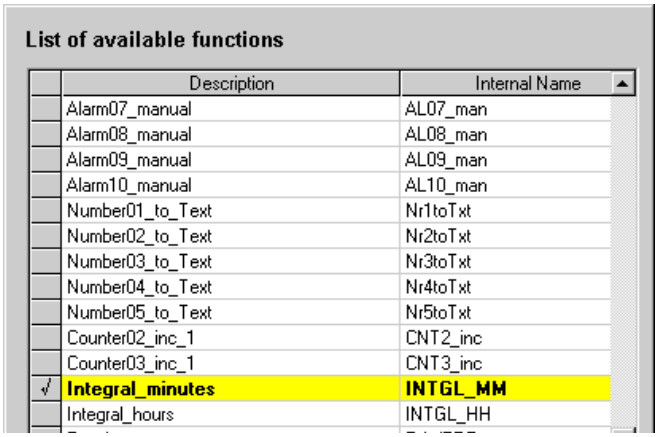
4.5.1 Function: integral hours, minutes

This function integrates an analog variable over hours or minutes. The variable which is to be integated is assigned through the mathematics function.

✱ Select a new PCdirect function

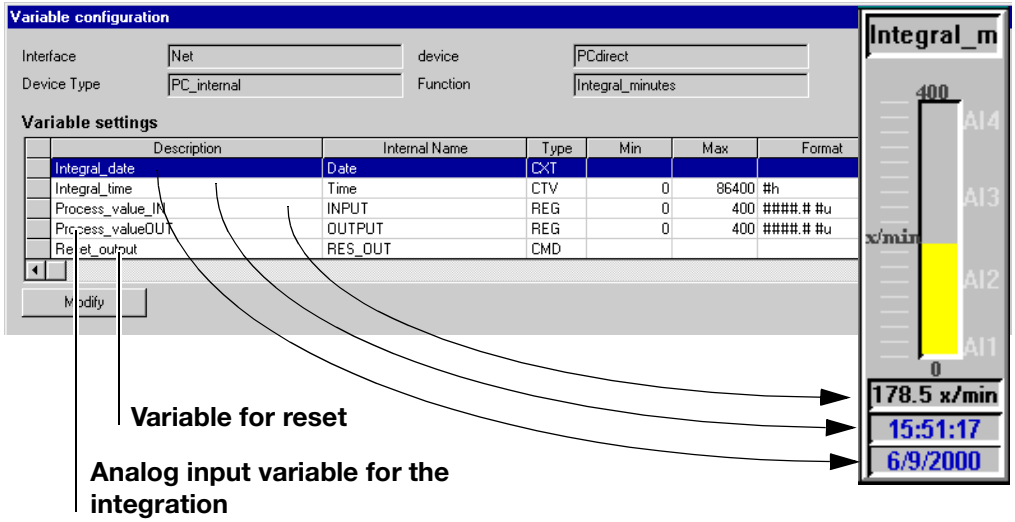


✱ Select the integral function (a tick appears)



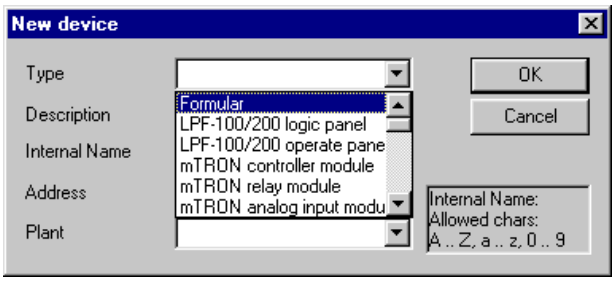
Integral minutes is now entered in the list of available functions.

✱ Click on *Integral minutes* and the variable, one after another.

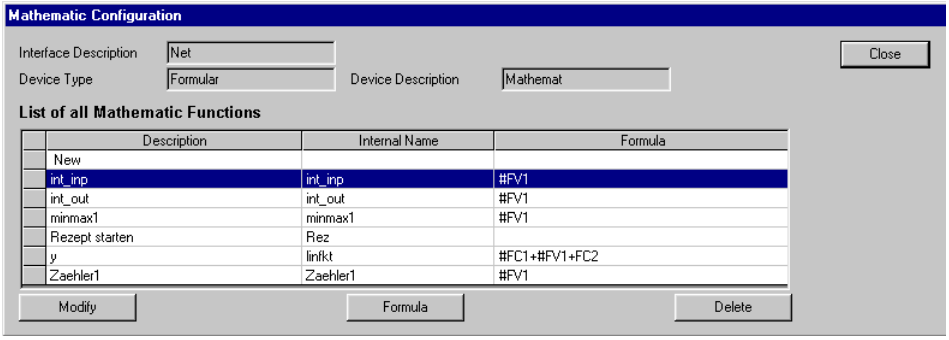


✱ Set up the format of the input and output variables in the variable configuration.

✱ Call up *New device, Formula*

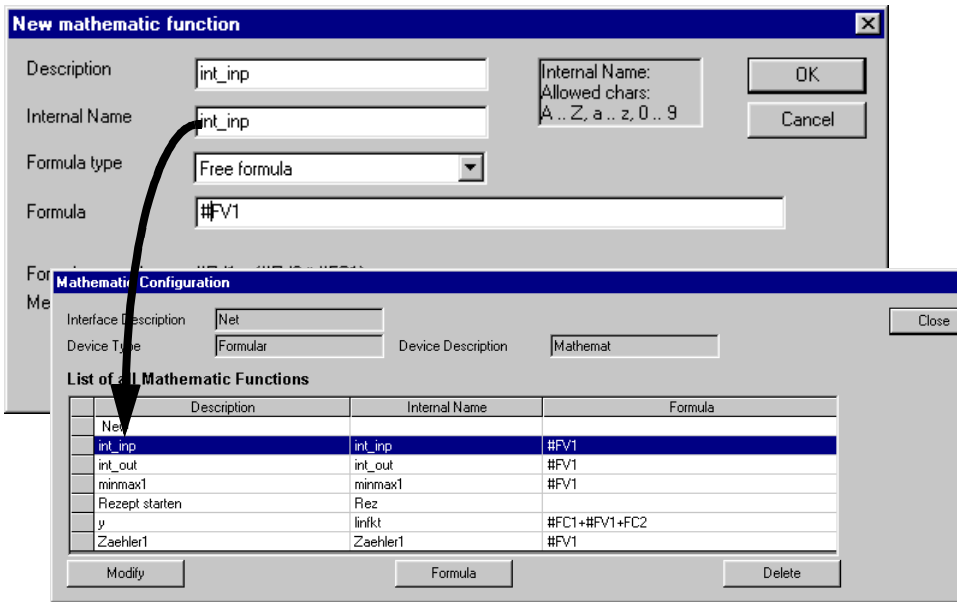


Variable assignment



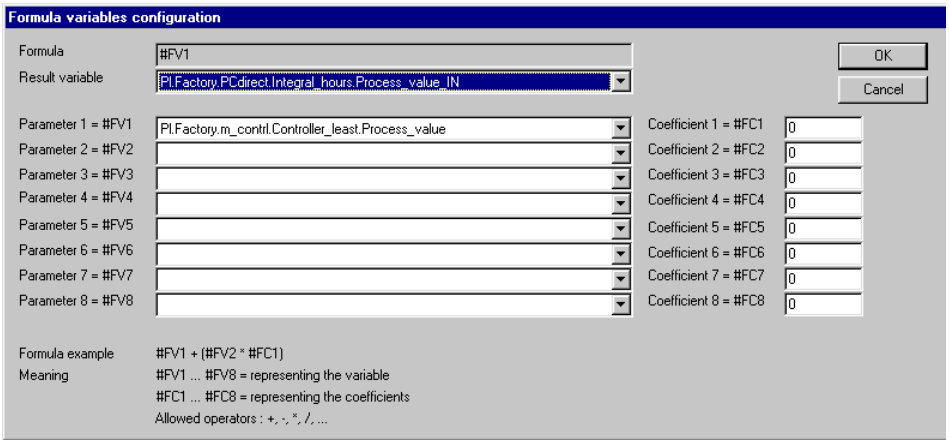
Several assignments and calculations can be entered here.

✱ Make the variable assignments in the mathematics function



✱ Confirm with *OK*

✱ Click on the formula



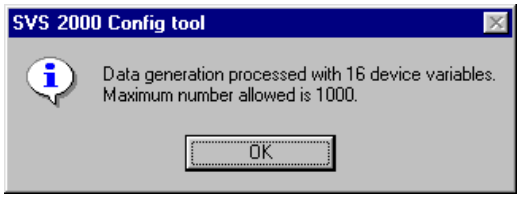
* Set up the input variable that is to be integrated
* Assign the output variable to the integral hours or minutes function

The integral input and output are now linked to the mathematical function in the table.

* Insert the integral function into the group display at the parameter level

4.6 Data generation

* Confirm with *Yes*
  A window appears which shows the number of variables that are used.



If more variables are used than the maximum permitted number, then the program will no longer be operable after the restart!

* Reduce the number of variables, or exchange the **Hardlock** on the printer-port for the next larger size.

4 Configuration

4.7 Print configuration

Print in file

This function saves the configuration data in a file.

In a standard installation, it can be found in the default directory: **Projects\usr\svswork\tp\print.dat**
and can be opened in a text editor.

Example

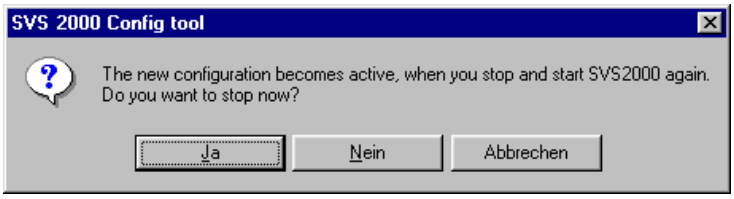
```
SVS2000 Application Configuration
                              1/10/2000 8:33
M.K. Juchheim                 SVS2000

Process system definition
Name                          Internal name                 Type          Data storage
Stock1                        Stok1                         Batch         50 MB



                              SVS2000 Application Configuration
                              1/10/2000 8:33
M.K. Juchheim                 SVS2000

Password definition
User                          Password                      User type
svs                           svs                           Configuration level
Meier                         meier                         User level



                              SVS2000 Application Configuration
                              1/10/2000 8:33
M.K. Juchheim                 SVS2000

Application bitmap
Picture                       Name                          File name
Desktop background            JUMO bitmap                   HINTERJU.BMP



                              SVS2000 Application Configuration
                              1/10/2000 8:33
M.K. Juchheim                 SVS2000

Formula
Name                          Internal name                 Formula
Linear equation               linfkt                        #FC1*#FV1+FC2



                              SVS2000 Application Configuration
                              1/10/2000 8:33
M.K. Juchheim                 SVS2000

Interface definition:
Name                        Internal name    Conn.    Type     Baud rate  Stop bits  Parity
Network                      Network          COM 1    Modbus   9600       8          even


Device definition for       Network
Name                          Internal name    Type                          Add ress
Belongs to process
m_AEing                       mTRON_AE         mTRON analog input module     1       Network
```

```
Function definition     Network
Name                Internal name
Analog_input_1      AI_1

Name                Internal name
Analog_input_2      AI_2

Name                Internal name
Analog_input_3      AI_3

Name                Internal name
Analog_input_4      AI_4

Name                Internal name
Binary_input_1      BI_1

Name                Internal name
Limit comperator    Limitk

PCdirect            PCinternal            PC_Direct                     255       Network


Function definition     Network
Name                Internal name
Report_Stock1       BE01_man



Mathemat            V_Mathem            Formula                                 Network


Functions definition     Network


                            SVS2000 Application Configuration
                            1/10/2000 8:33
M.K. Juchheim               SVS2000

Report configuration
Report definition for process system     Stock1
Sampling_interval 0         Batch_data   Devices         Type    Variable
Report_start - stop Start  An.Stock1.PCdirekt.ProtokollStock1.ProtokollStock1Switched to  1
                    Stop   An.Stock1.PCdirekt.ProtokollStock1.ProtokollStock1Switched to  0
Prog. No.
Batch No
Product Nr.
Devices                      Function

N_A
```

4.8 Exit

Exit

Ends the configuration of the process system. The program must be exited and restarted.



* Comfirm with *Yes*

If *No* is entered here, then the settings will be saved, but will not become effective during operation.

The appearance of the screen masks for operation is set up at the parameter level.
In this way, you can achieve the desired overview of the process system which you want to observe. The process system definitions from the configuration level become active here, and the names of the process systems appear one after another in a list.

Parameter level

✱ Press F 11

This level is locked by a password.
Access can only be obtained by using the password!

⇨ Chapter 4.2.3 “Password administration”

Process system names
List of the defined process systems

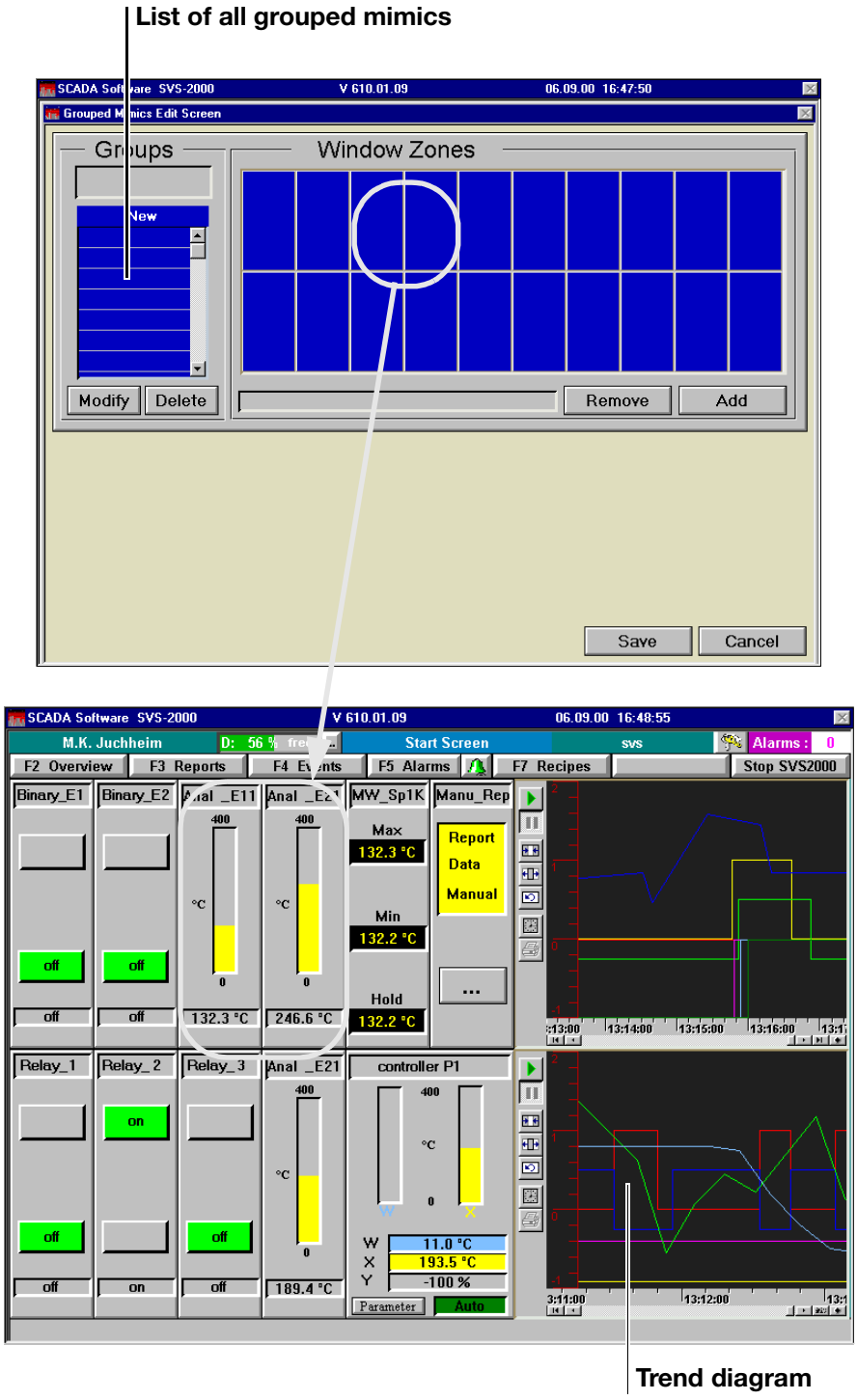
5 Parameterization

5.1 Grouped mimics (general)

Grouped Mimics (general)

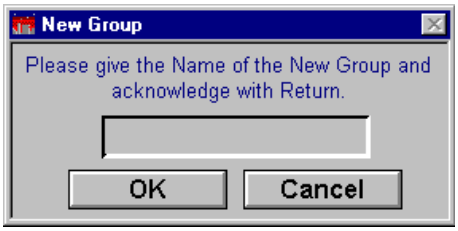
The screen is divided into 20 zones of equal size for the layout of group displays (known as grouped mimics).
Up to 2 zones are needed for device functions, and 4 zones for trend diagrams. The functions can be placed anywhere on the screen. These grouped mimics access the **entire plant/process data**, so that functions can be put together from **all** the defined process systems.

Placing the functions/ display in the grouped mimic



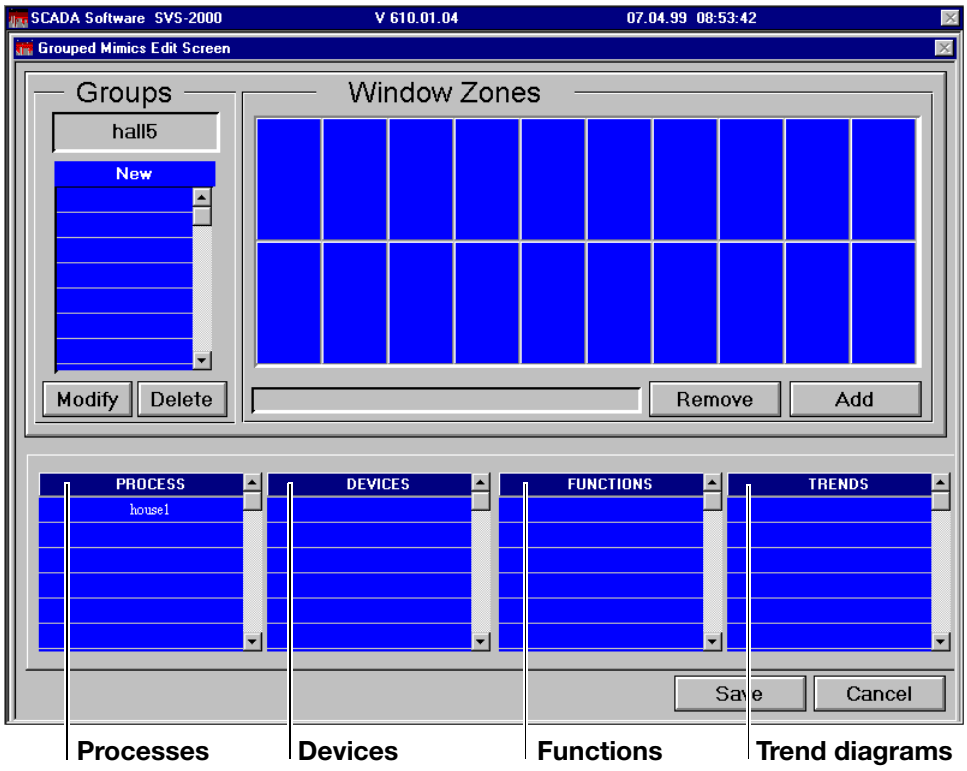
New

* Double-click on *New*



* Click in the name box with the mouse (cursor blinks)
* Enter the name for the grouped mimic (16 characters)
* Confirm by pressing *Enter* on the keyboard
* Save with *OK*

The name appears in the *Groups* field



5.1.1 Visualizing device functions

Process

* Select the process system
  All the devices in this process are listed in the *Devices* window.

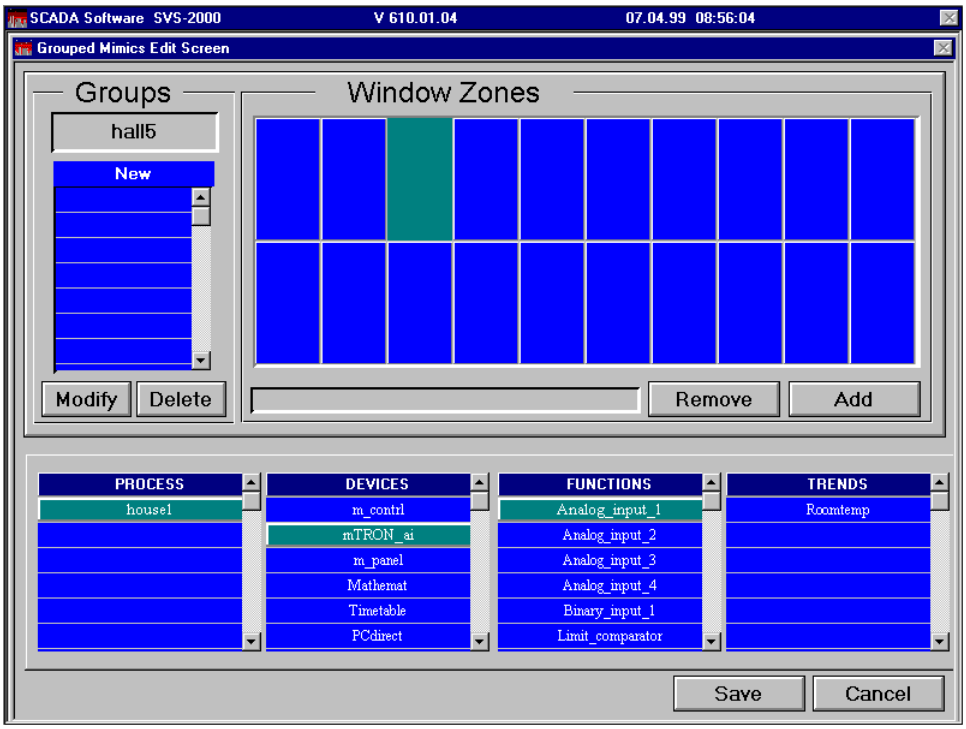
Device

* Click on the required device
  All the device functions for this process are listed in the *Functions* window.

Function

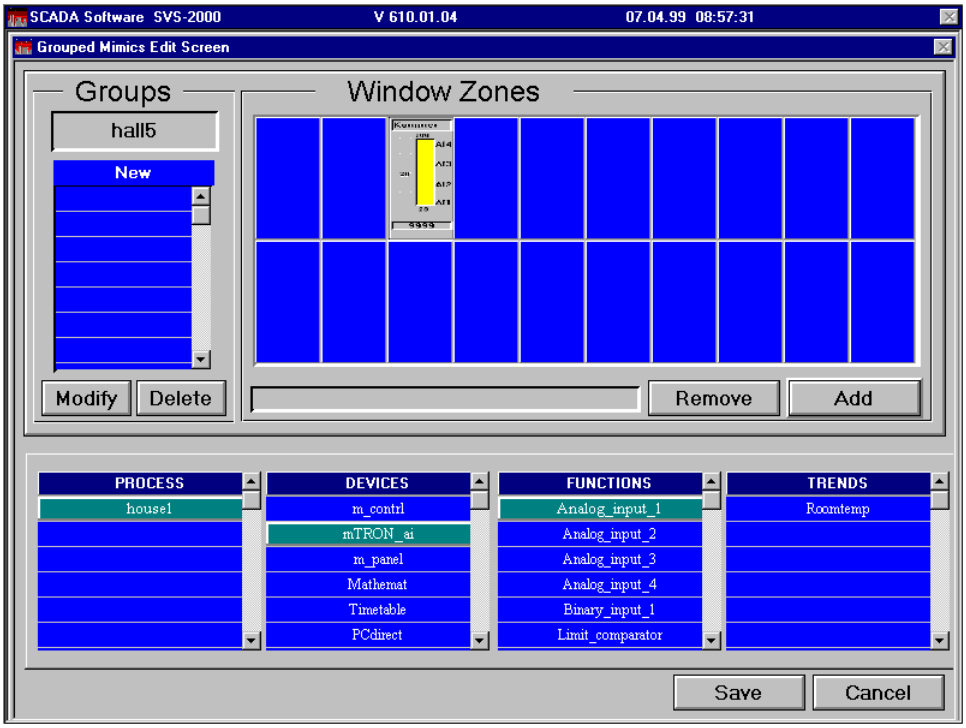
* Selected the required function

* Click on the screen zone where this function should appear (the zone appears with a grey background)



* Click on *Add*

A preview picture appears at the marked position.



* Repeat this procedure as often as necessary, until the grouped mimic has the layout you want.

5.1.2 Embedding trend diagrams in the grouped mimic

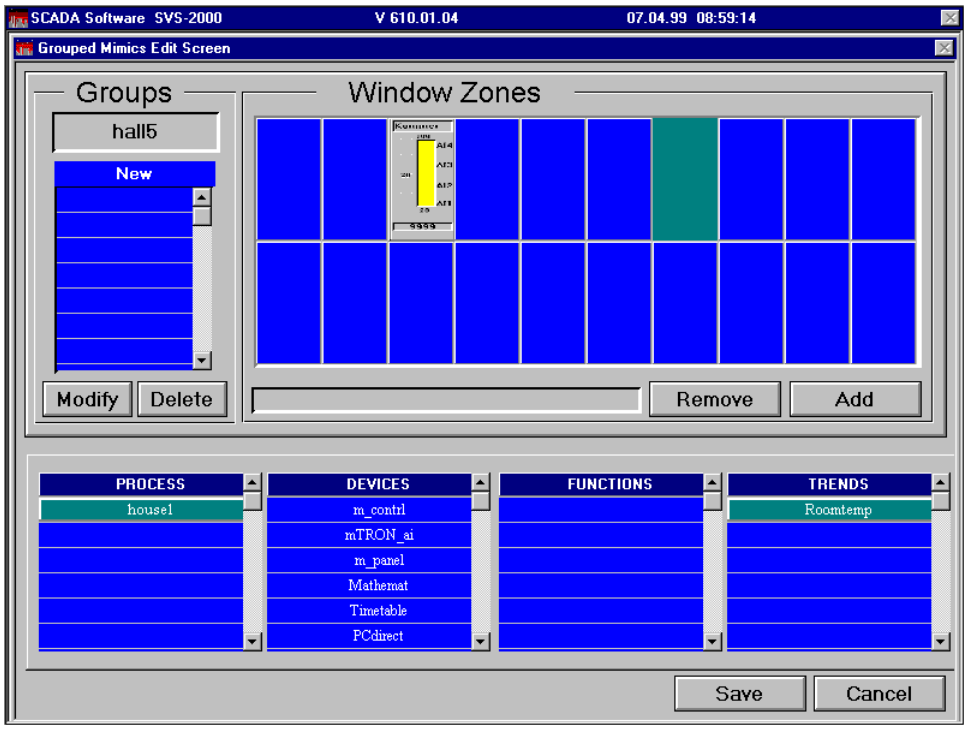
Trend diagrams can be inserted into grouped mimics, provided that they have previously been defined for a process system.

⇨ Chapter 5.2 “Trends”

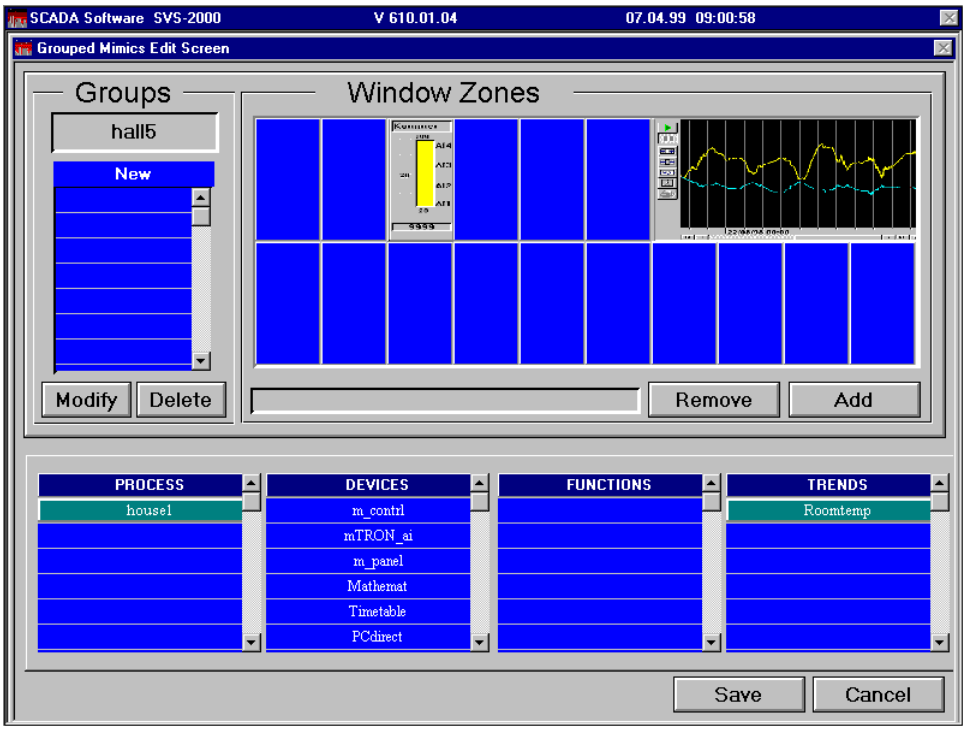
* Select the process system

All the devices for this process system appear in the *Devices* window.
The name of the trend diagram appears in the screen at bottom right, in the list of trend diagrams.

* Select the trend diagram that is defined for this process system.
* Click on the screen zone where this diagram should appear
  (the zone appears with a grey background)

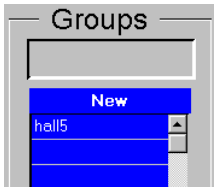


* Click on *Add* (the preview picture takes up 4 zones)



✱ Save the grouped mimic with it *Save*

The new grouped mimic appears in the list of groups.



New — New grouped mimics can be created by entering a new name for the grouped mimic, and saving it under this name.

Delete — Deletes a selected grouped mimic, after a confirmation query.

Modify — Modifies the screen layout for the selected grouped mimic, by adding or removing functions.

Save — Saves a grouped mimic.

Cancel — Closes the window for editing grouped mimics, without saving.

Remove — Removes a marked zone for a grouped mimic or trend diagram. The preview picture disappears.

Add — Adds a zone for a trend diagram at the marked position. The zone is represented by a preview picture.

5.2 Trends

A trend diagram is a recording of process variables over time, similar to a chart recorder. The difference to grouped mimics is that a process system must be selected. Trend diagrams can be embedded into grouped mimics.

The trend diagrams can only include variables that have also been marked (ticked) in the report.

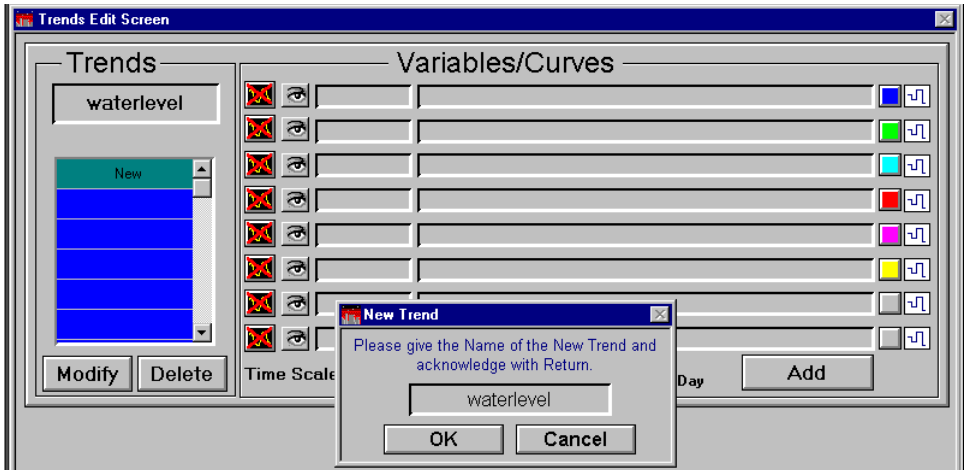
⇨ Chapter 4.4 “Reports”

5.2.1 Settings

* Select a process system (e.g. factory)

Trends

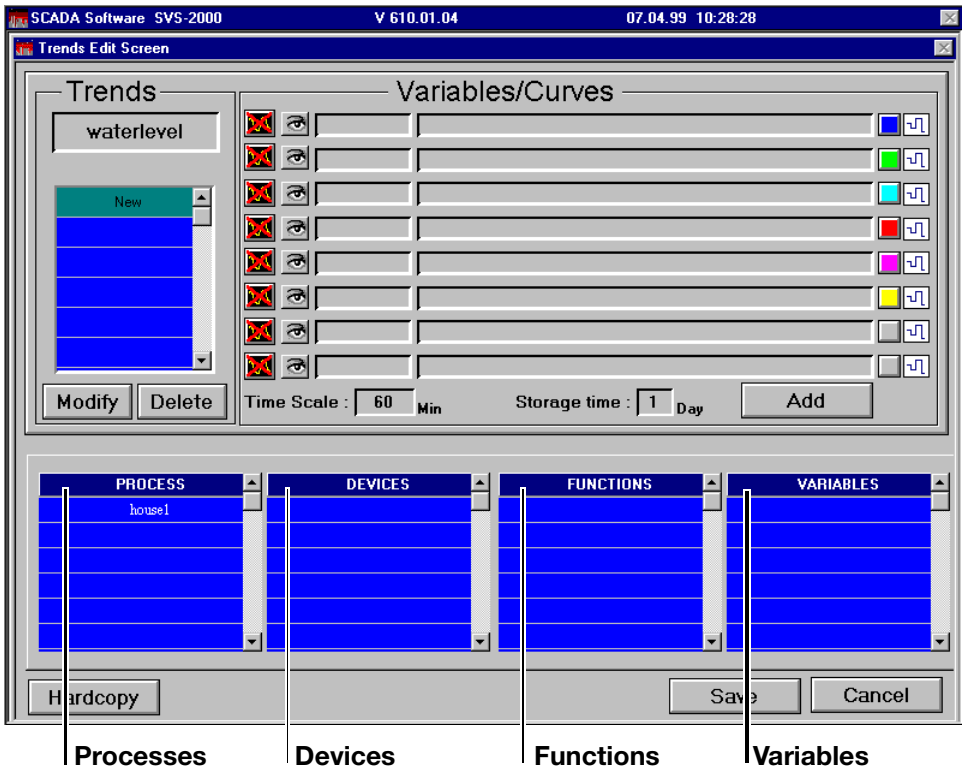
* Click on *Trends*
* Double-click on *New*



Define a name

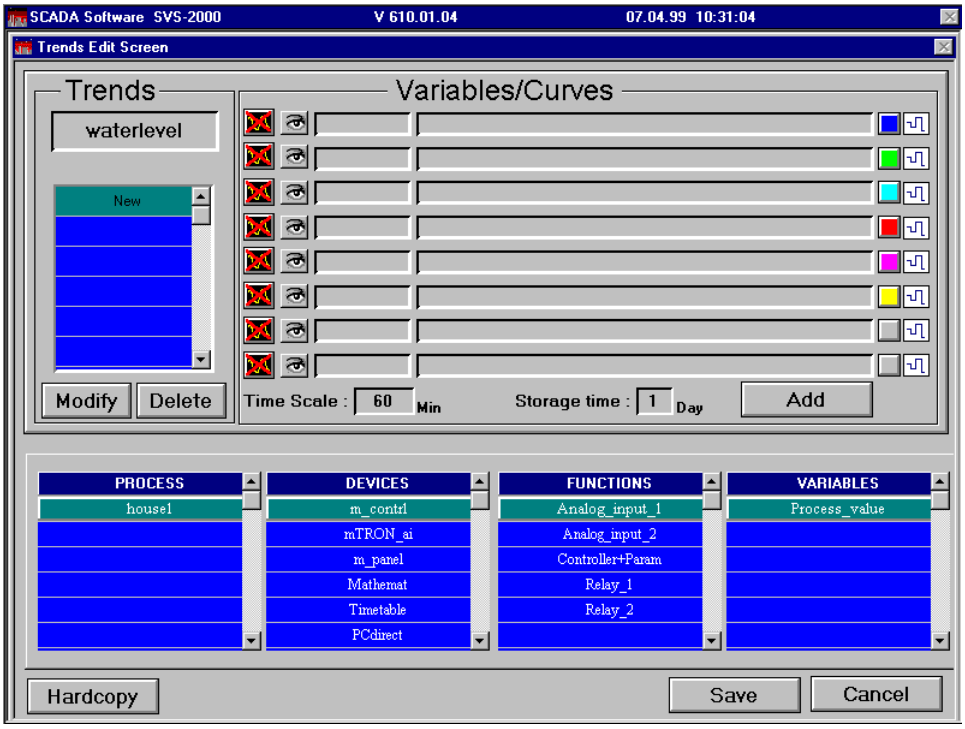
* Enter a name for the trend diagram (12 characters)
* Confirm by pressing *Enter* on the keyboard
* Save with *OK*

The name appears in the *Trends* field, and the process system is entered at bottom left. The layout is similar to that for grouped mimics. The list on the right also appears, with the variables, because they are selected here.



Variables

* Click on the required device
  All the device functions for this process system are listed in the *Functions* window.
* Click on the function you want
  All the activated variables appear in the *Variables* window.
* Click on the required variable

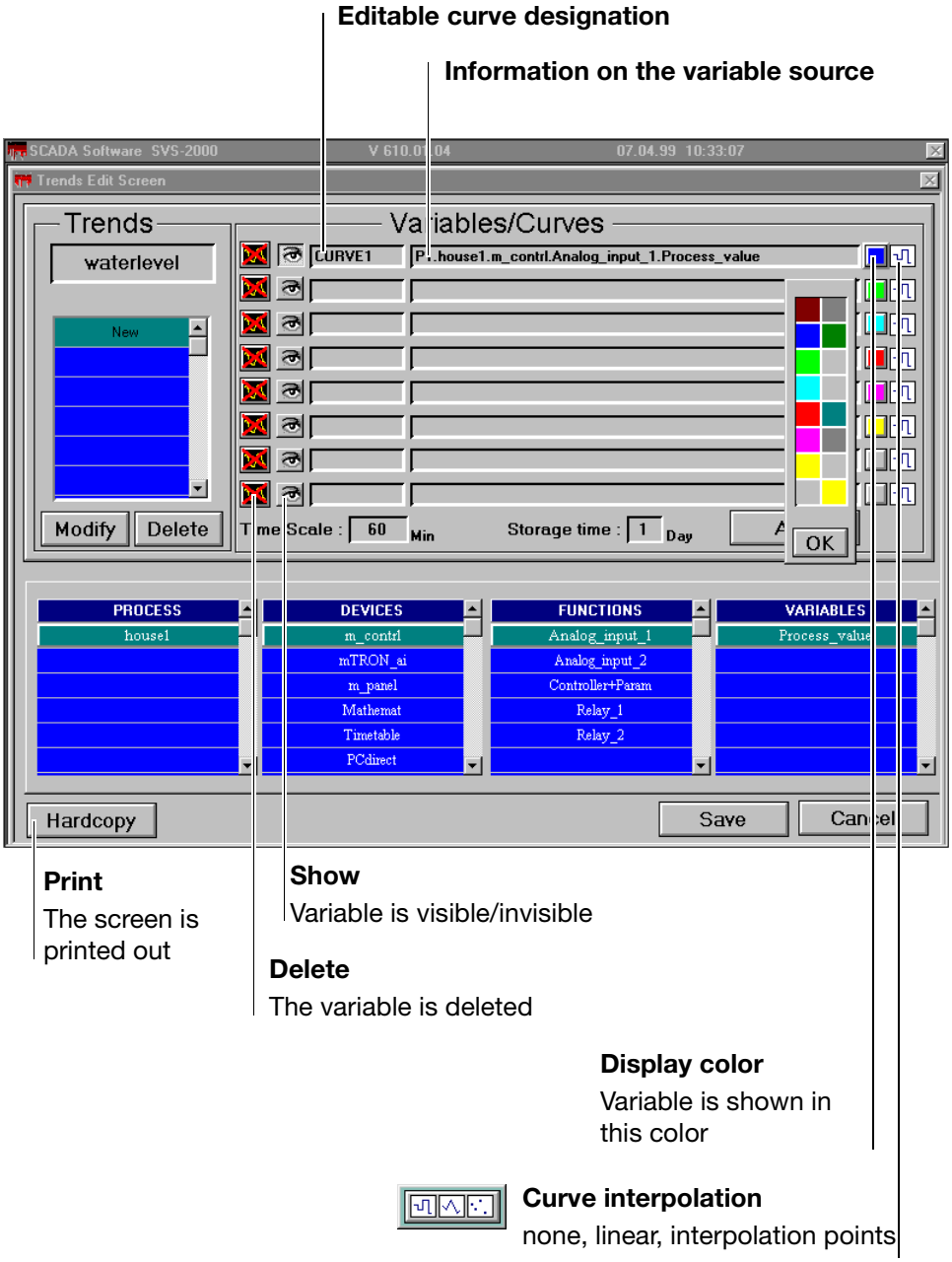


* Click on *Add*

The variable is entered into the list for curve representation, and is shown in the color indicated at the right of the variable.

5.2.2 Visualization

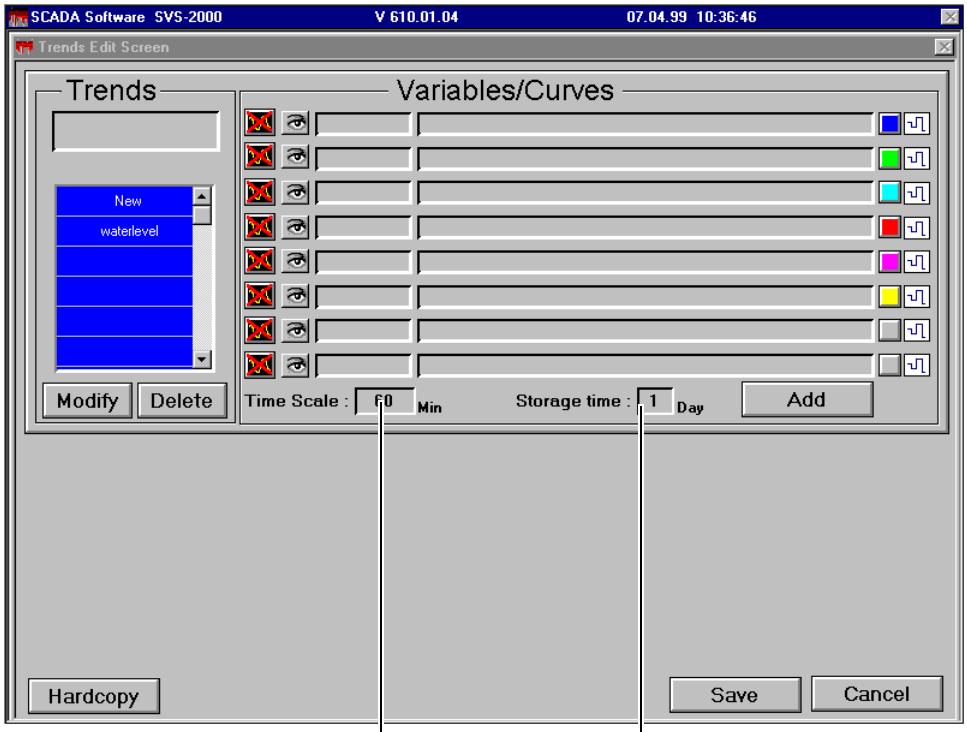
The settings for visualization determine the number, color and time period represented by the curves. This screen can be printed out.



* Repeat the procedure until all variables have been entered for the representation as a trend diagram.
* Store the trend diagram with *Save*
  The trend diagram in enered into the table of trend diagrams. Click on it to see the variables which have been stored.

Show/Delete The corresponding variable will be visible / not visible in the trend diagram, depending on which symbol has been clicked.

Variables which are not visible will still be recorded.

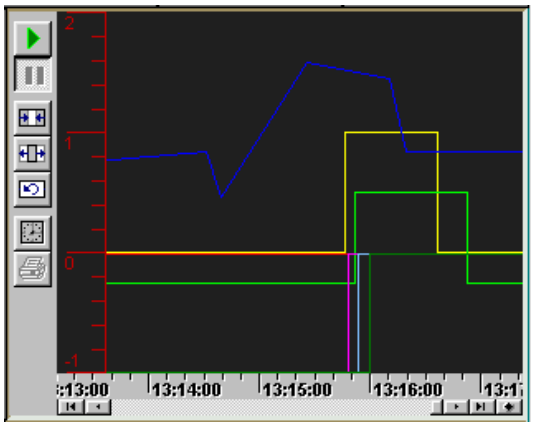


Time scale
The time period that is visible when the trend diagram is called up

Storage time
The length of time during which the trend diagram is recorded and for which data can be observed.

Application

A trend diagram that has been created in this way can be embedded into a grouped mimic, and takes up 4 zones.



⇨ Chapter 5.1 “Grouped mimics (general)” and Chapter 5.3 “Grouped mimics”

⇨ Chapter 6.4.4 “Calling up trend diagrams”

5 Parameterization

5.3 Grouped mimics

Grouped mimics are defined specifically for individual process systems in this menu. A grouped mimic visualizes certain device functions of the process system, with the aid of bar-charts and buttons.

* Press F11

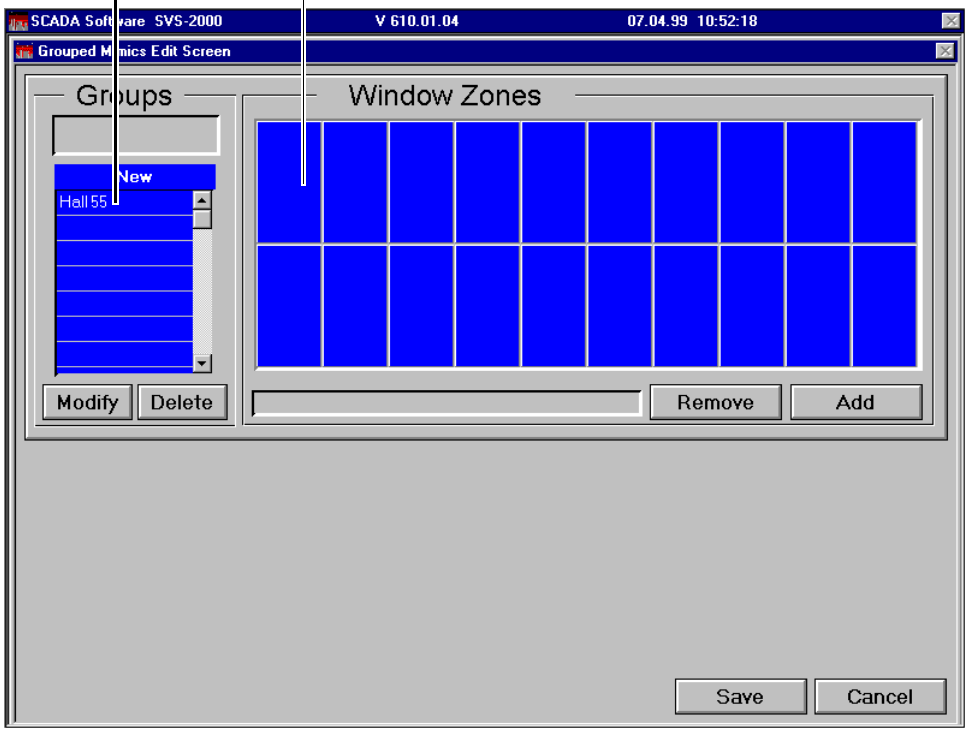
* Select the process system

Gruppenbilder

✱ Click on *Grouped mimics*

Name
List of available grouped mimics

Position on the screen
Click on it to see the process assignment, device and function



After you have selected a process system, the grouped mimics are handled as for *Grouped mimics (general)*.

⇨ Chapter 5.1 “Grouped mimics (general)”

New — For new grouped mimics, a new name must be entered and saved. This will then appear in the list.

Delete — Deletes a selected grouped mimic, after a confirmation query.

Modify — Modifies the screen layout of the selected grouped mimic, by adding or removing functions.

Save — Saves a grouped mimic.

Cancel — Closes the window for editing grouped mimic, without saving.

Remove — Removes a marked zone from a grouped mimic. The preview picture disappears.

Add — Inserts a zone for a device or a trend diagram at the marked position. The zone is represented by a preview picture.

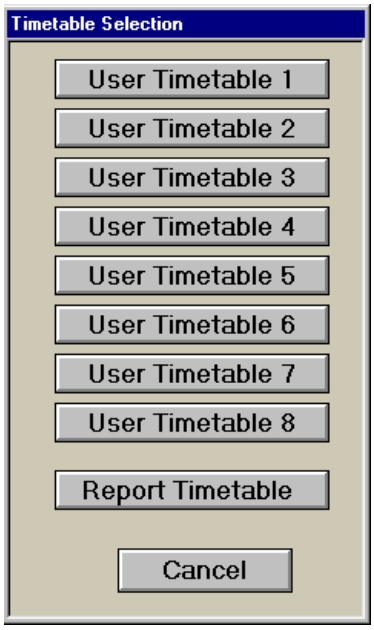
5 Parameterization

5.4 Timetable

* Press F11
* Select the process system
* Click on *Timetable*

Timetable

The timetable is basically a calendar function. Eight user timetables and one report timetable are available for each process system. Each day of the week can be divided into 20 time segments, e.g to start or switch off a report function. The exception table is used to define the behavior on special days, such as holidays.



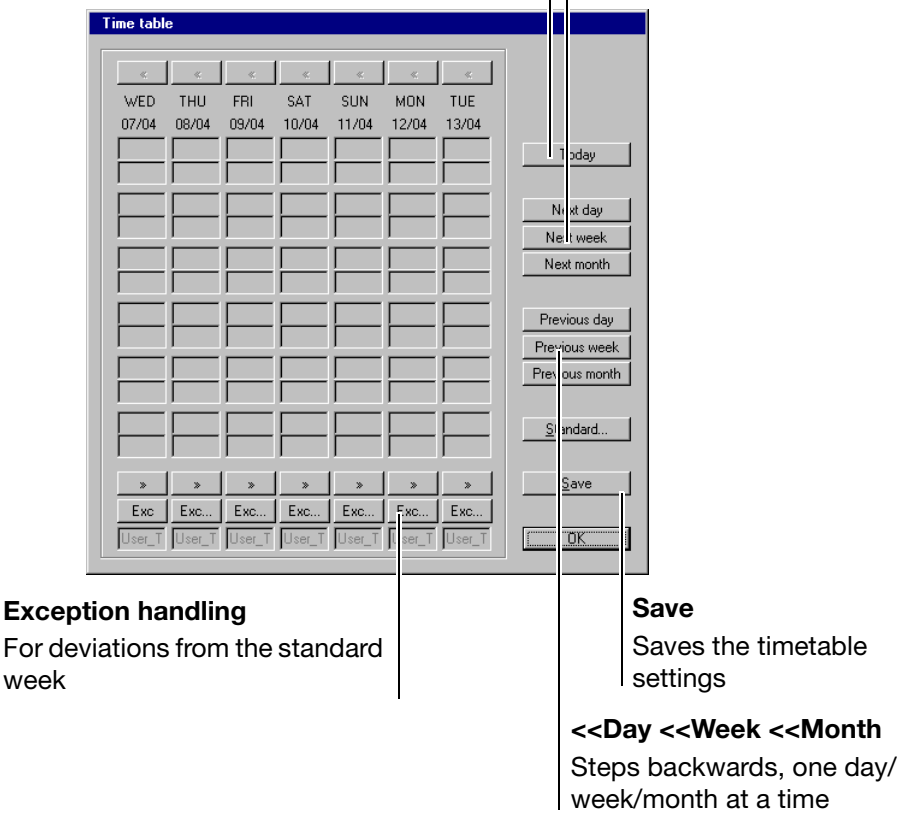
5.4.1 User timetable

Before this function can be used, the assignment to a process system must be established at the configuration level. The user timetable must be entered in the list of available devices (*Type: Timetable*) and has a digital output that can be set under time control.

⇨ Chapter 4.3.2 “Device configuration”

User Timetable

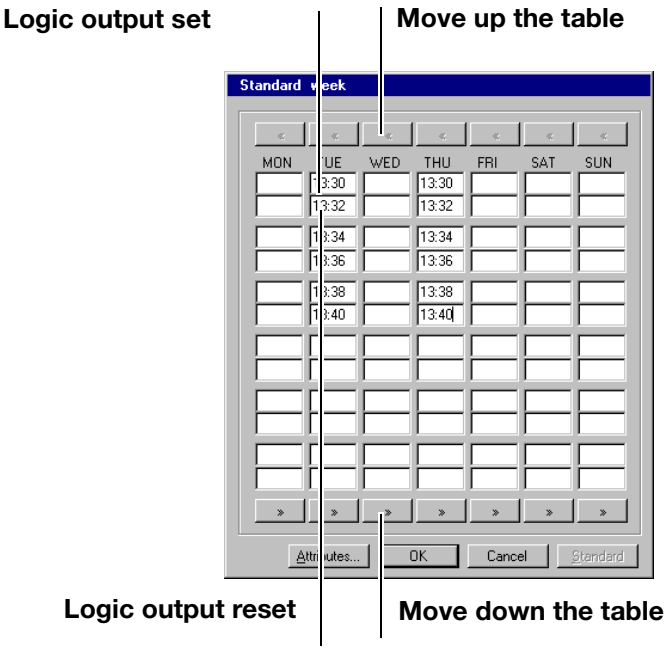
✱ Click on *User Timetable*



✱ Click on *Today*
The current date appears in the left column

✱ Click on *Standard*

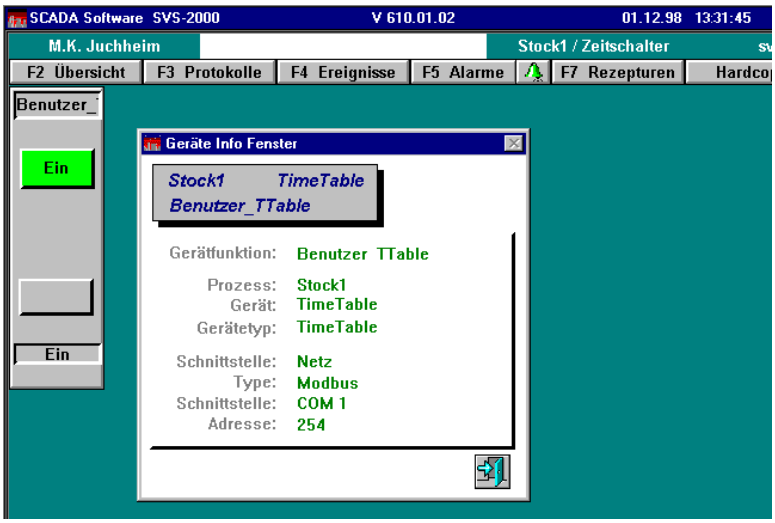
Different times can be entered for each day of the week.
It is also possible to switch from one day to another. Any corresponding text which has been set up will appear in the grouped mimic.



✱ Save the settings with *OK*

Example

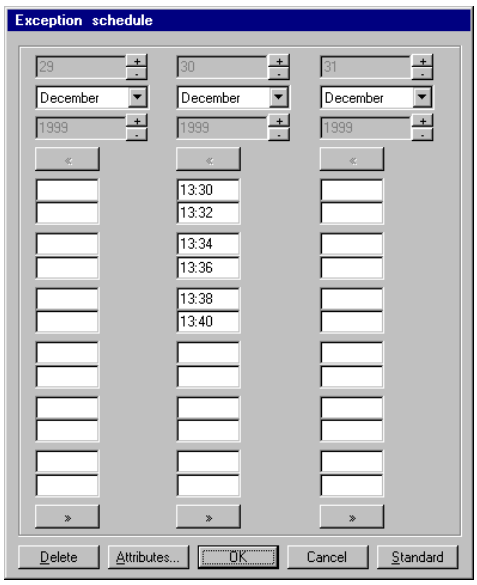
The screen shot shows that the output of the user timetable was switched on for 2 minutes at 13:30.



Exception handling

If it is necessary to deviate from the standard week that was set up, then a different time period can be set, which is only valid for the specific day.

* Set the required week in the timetable (e.g. between Christmas and New Year)
* Click on the *Exc...* button



6 new time periods can be defined for this day, which differ from those defined for the standard week.

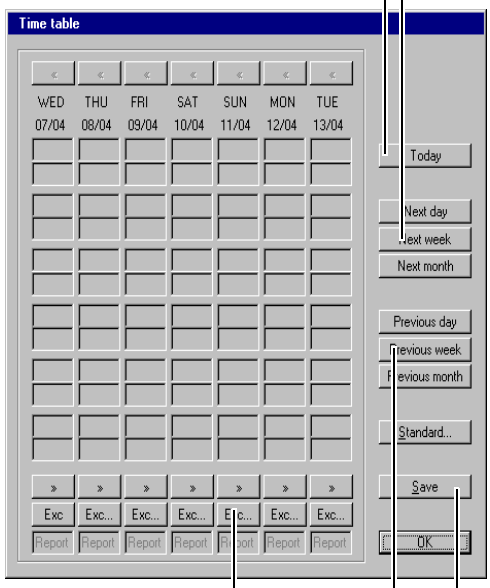
* Confirm with *OK*

5.4.2 Report timetable

This function can be used to start and stop a report. Six double-fields can be found below the weekday. The top half of the double-field contains the start time, and the lower half contains the stop time.

Report Timetable

✱ Click on *Report Timetable*



Today
The current date

Day>> Week>> Month>>
Steps forwards, one day/ week/month at a time

Exception handling
For deviations from the standard week

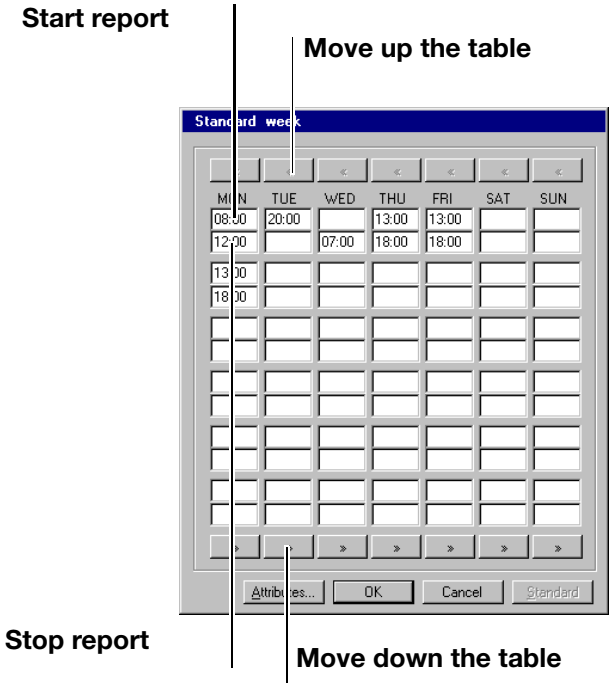
Save
Saves the timetable settings

Day>> Week>> Month>>
Steps backwards, one day/ week/month at a time

✱ Click on *Today*
The current date appears in the left column.

✱ Click on *Standard*

Several different reporting periods can be entered for each day of the week.
It is also possible to start on one day, and stop on the next day.



✱ Save the settings with *OK*

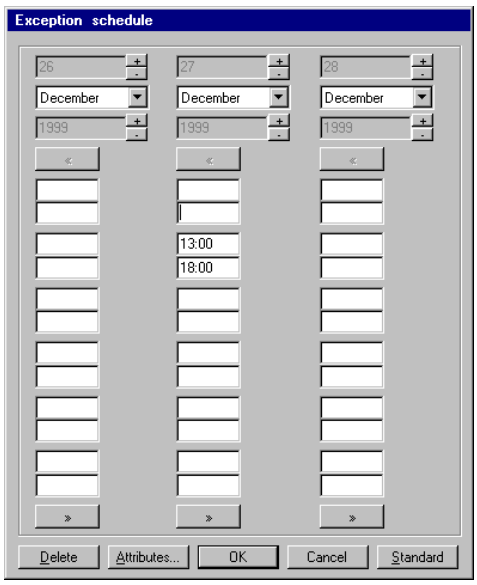
Example

In this example, 2 report periods are set up for Monday.
A report is created from 08:00 to 12:00 and from 13:00 to 18:00.
On Tuesday, the report starts at 20:00 and stops on Wednesday at 07:00.
The hours and minutes must be separated by colons.
The entries refer to the process system that was already selected, and must be configured with the date for the report settings.

Exception handling

If it is necessary to deviate from the standard week that was set up, then a different time period can be set, which is only valid for the specific day.

* Set the required week in the timetable (e.g. between Christmas and New Year)
* Click on the *Exc...* button



6 new time periods can be defined for this day, which differ from those defined for the standard week.

* Confirm with *OK*

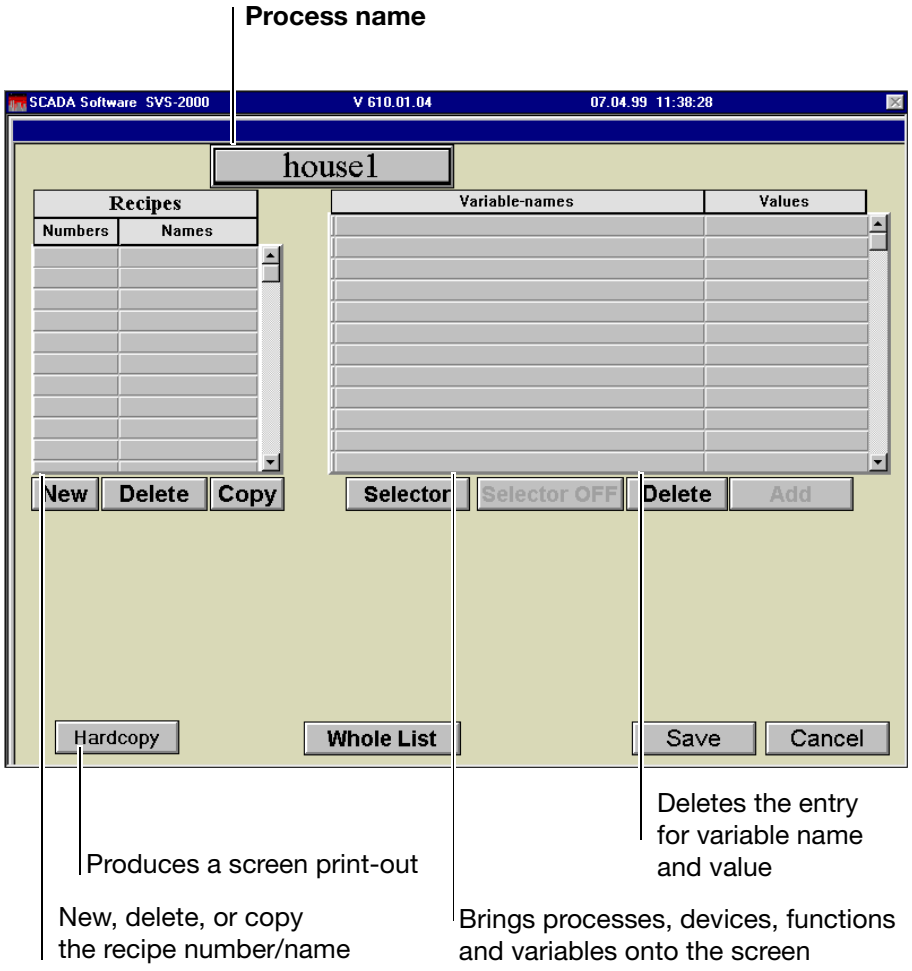
5.5 Recipes

The use of recipes makes it very easy to change over a process system to another product. If, for instance, different programs (program numbers) have to be started in the program devices, then a recipe can collect all the required settings and send them to different process systems at predetermined times.

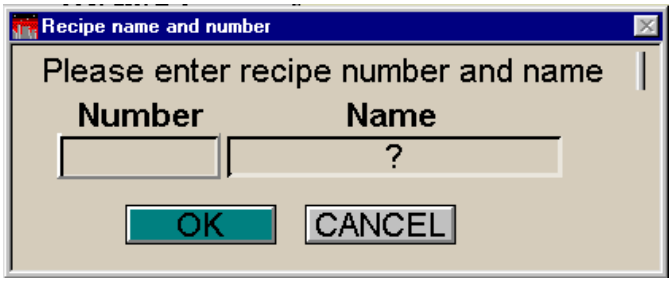
* Press F11
* Select the process system
* Click on *Recipes*

Recipes

A recipe is a collection of different variables, such as the setpoints for a process system. Each process can have a maximum of 100 defined recipes, and each recipe can have up to 100 defined variables.



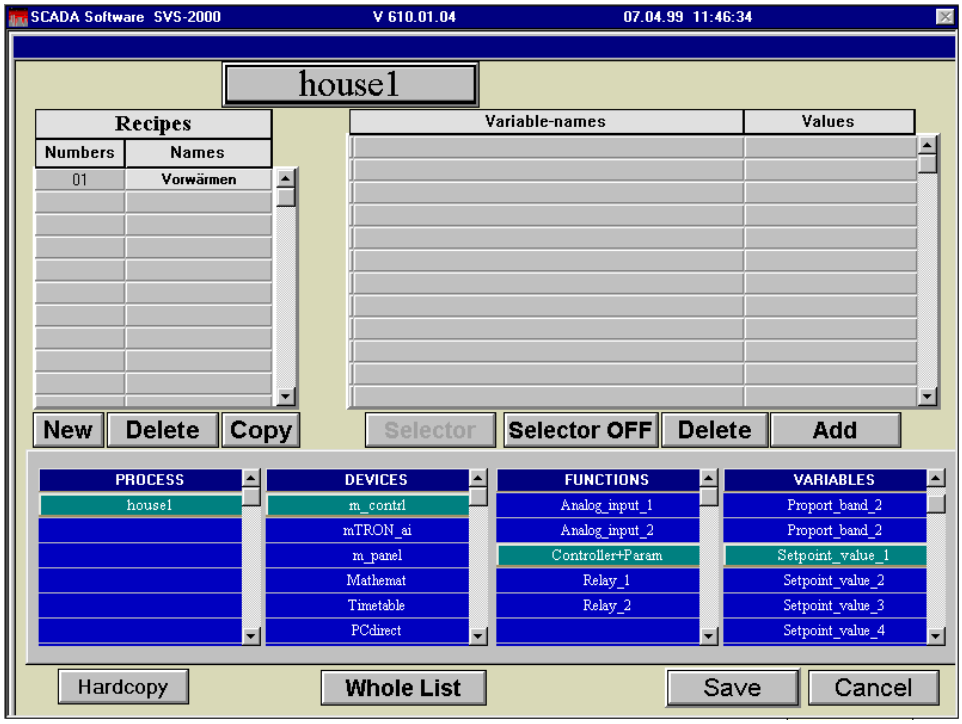
* Click on *Recipes* ➔ *New*



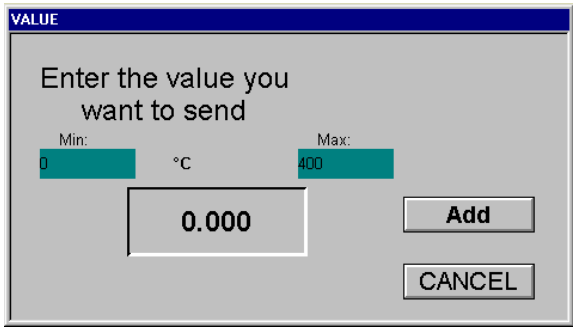
* Enter the recipe number and name, and confirm with the *Enter* key

A recipe name must not be used twice, not even in a different process system.

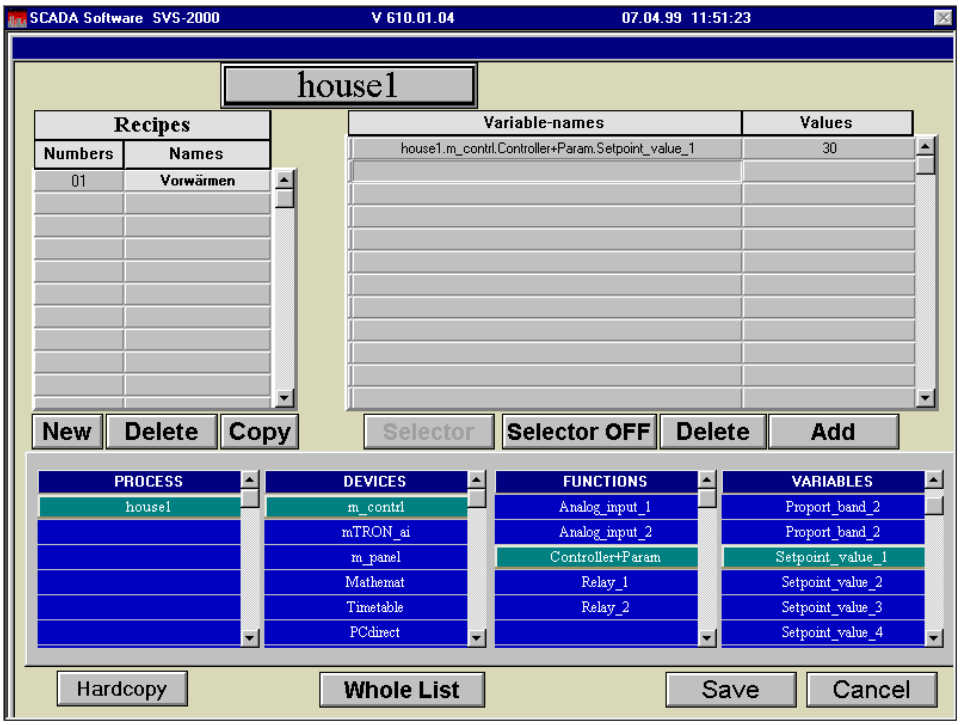
* Click on *OK*
* Press *Selector*



* Press *Add*
* Enter the value for the variable, and confirm with the *Enter* key.



✱ Press *Add*
The entry for the variable appears in the corresponding field.

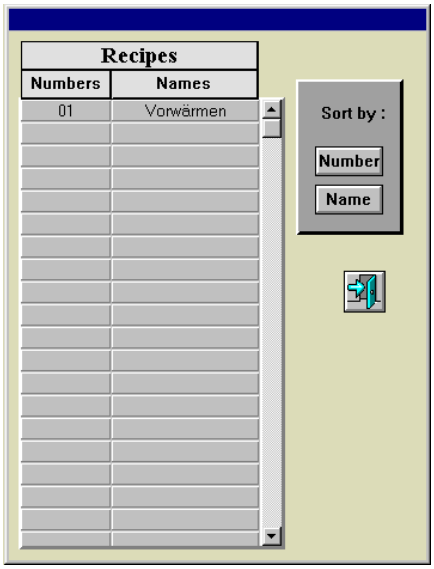


Up to 100 variables can be added under a recipe name.

✱ Press *Save*

The recipe has been saved, and can be transmitted at the operating level.

⇨ Chapter 6.8 “Recipes”



The function *Whole list* can be used to show all the recipes for all process systems in a single window, and to sort them by number or name.

The recipes are stored in the directory:
\Projects\Usr\SVSWORK\Recipe_name
and the daily backup is stored in the directory
\Projects\SVS_SAVE\Recipe_name (without a file extension).

6.1 Logon through a password

Access rights

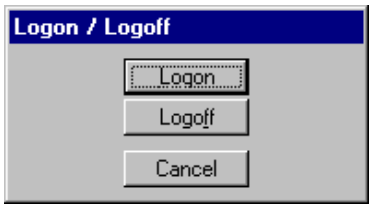
Every user must log on at the operating level with their name and a password. Each user will have specific access rights, depending on the settings.

Priority	Access rights	What am I allowed to do?
3	Parameter, configuration and operating levels	Configuration under F12, parameterization under F11 and operation under F2.
2	Parameter and operating levels	Parameterization under F11 and operation under F2.
1	Operating level	Operation under F2, and setpoint entry in grouped mimics

⇨ Chapter 4.2.3 “Password administration”

Logon

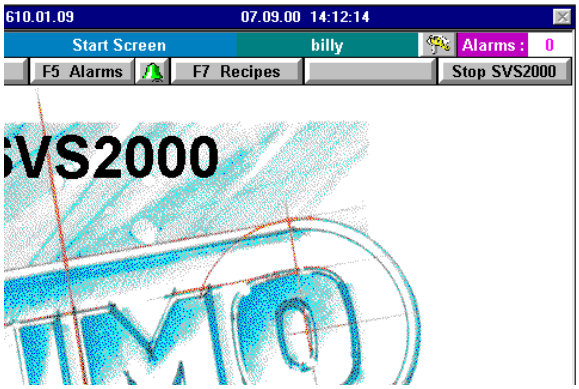
✱ Press F10 or click on the *Logon* button



✱ Click on *Logon*

✱ Enter your user name and password

✱ Click on *OK*
The user name appears in the status line at top right.



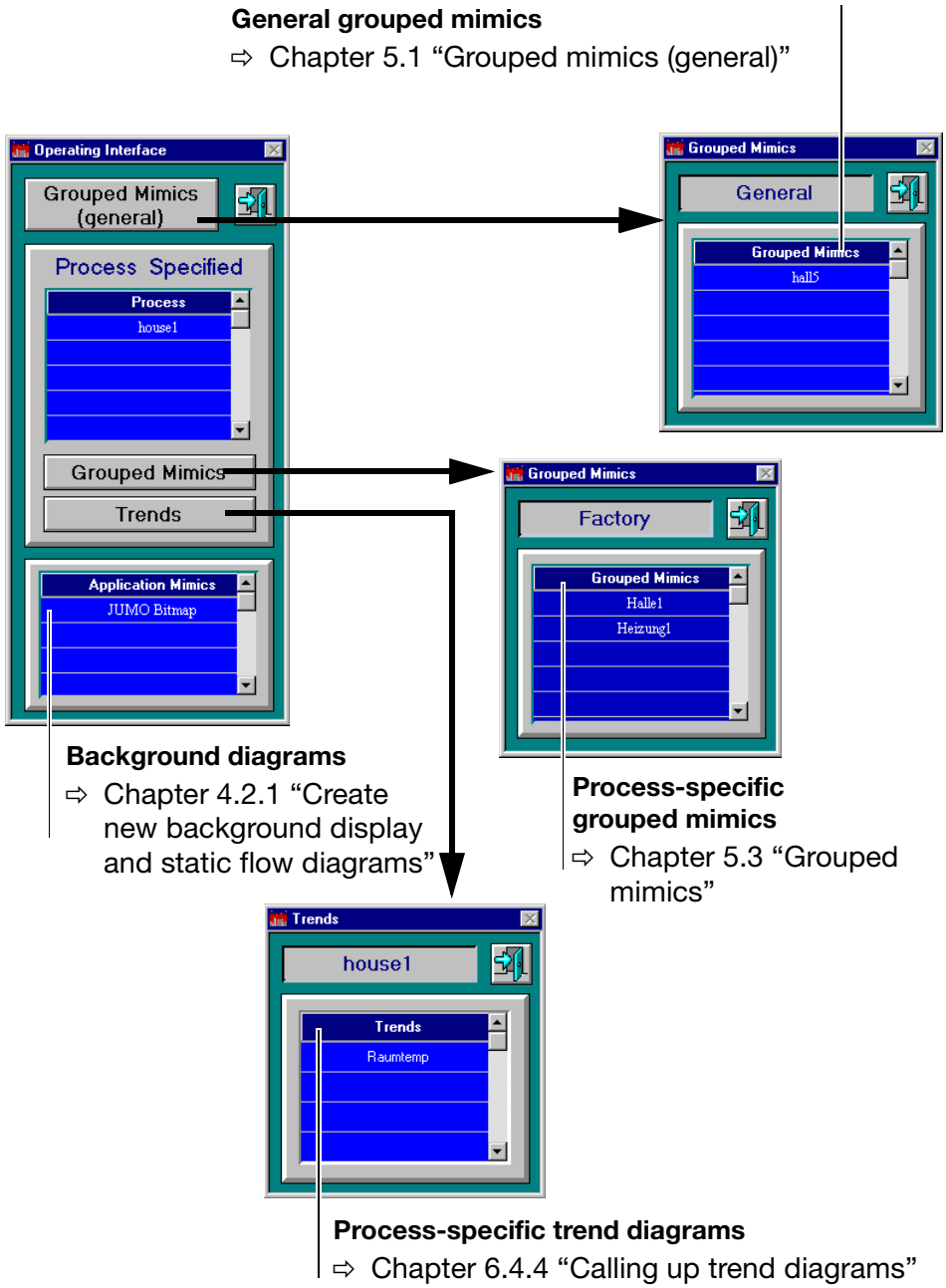
6 Operation

6.2 Calling up screens

6.2.1 With the F2 function key

F2 Overview

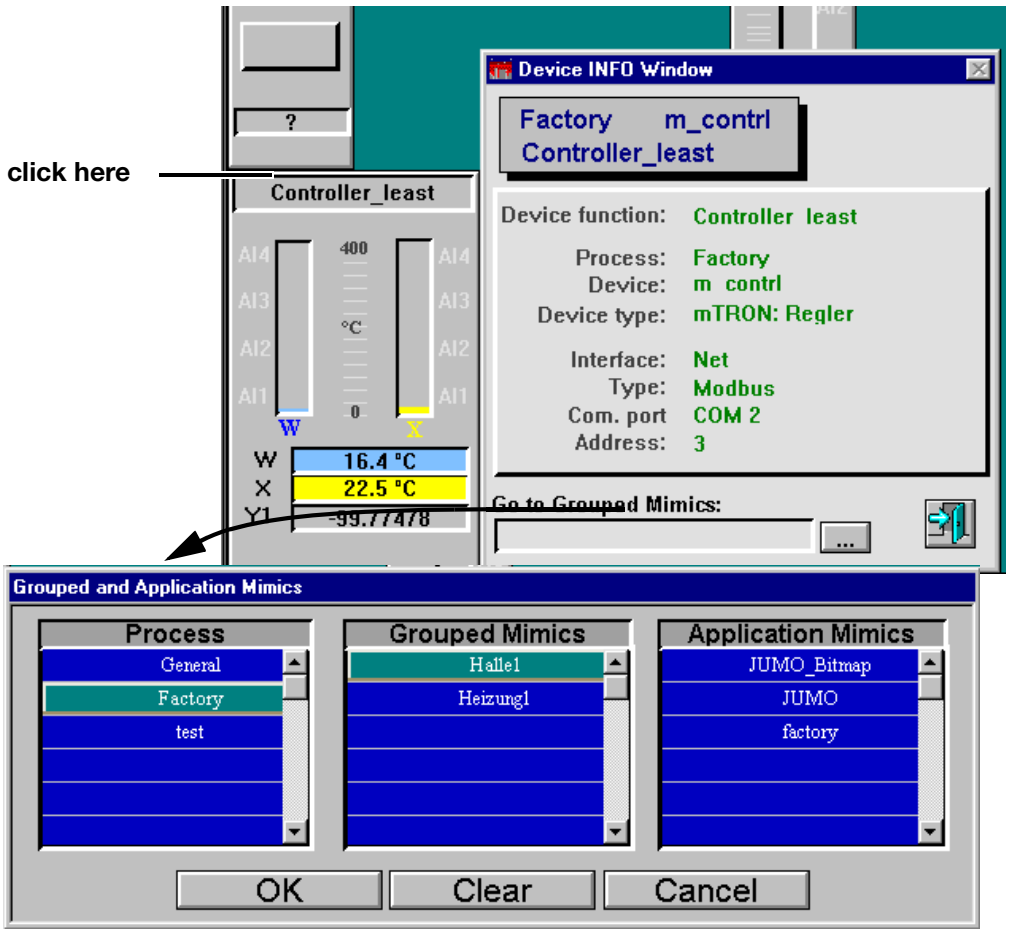
This menu is used to call up grouped mimics, and trend/flow diagrams. They are divided into general and process-specific diagrams. Within a grouped mimic you can use the PgUp and PgDn keys to switch lists on and off.



6.2.2 Button-control of mimics

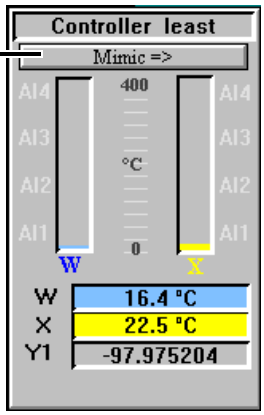
Activate a button

In any object of a grouped mimic, you can insert a button (see arrow) that leads to another grouped mimic. If you click on the label for an object in a grouped mimic, then the grouped mimic or flow diagram which the program branches to can be entered in the bottom line of the drop-down menu.



✱ Click on *OK* to accept

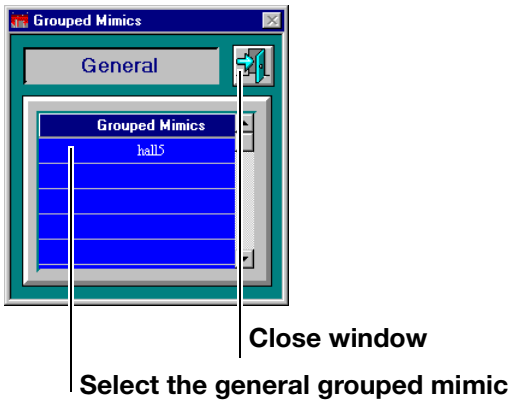
A click on this button branches to the grouped mimic that has been set up.



6.3 Calling up general grouped mimics

General grouped mimics are used to provide an overview of the entire plant. This could be, for instance, a grouped mimic that shows which process systems are currently in operation.

* Press the F2 key

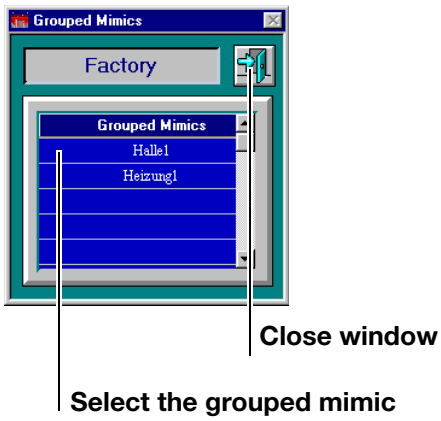


* Click on the required grouped mimic

6.4 Calling up process-specific grouped mimics

* Click on the required process system
* Click on the *Grouped mimics* button

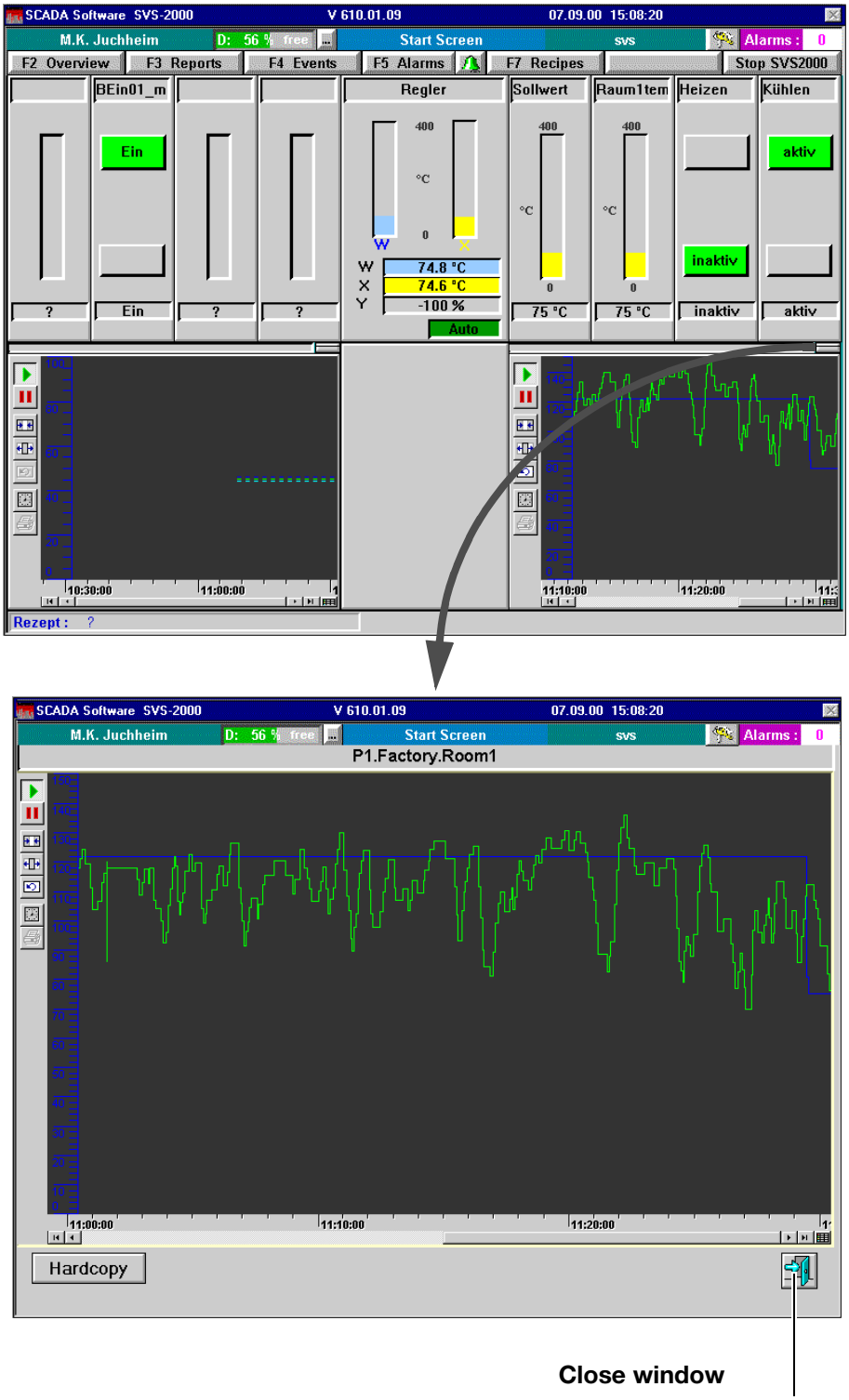
All the grouped mimics for this process are listed one after another.



* Click on the required grouped mimic

6.4.1 Enlarging trend diagrams

If the grouped mimic includes any trend diagrams, they can be enlarged to fill the entire screen, by using the small button at top right.

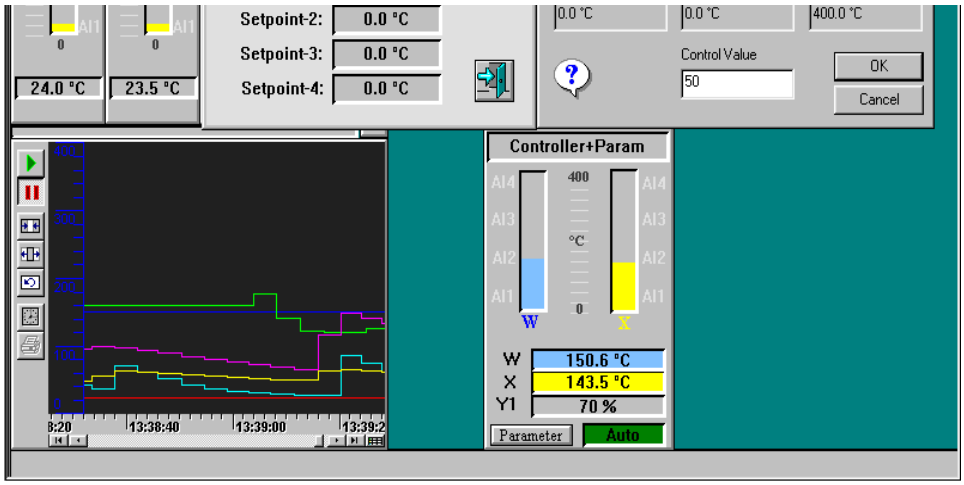


6.4.2 Instrument functions

The device functions can be operated from the screen in exactly the same way as on the device itself.

Enter/alter setpoints

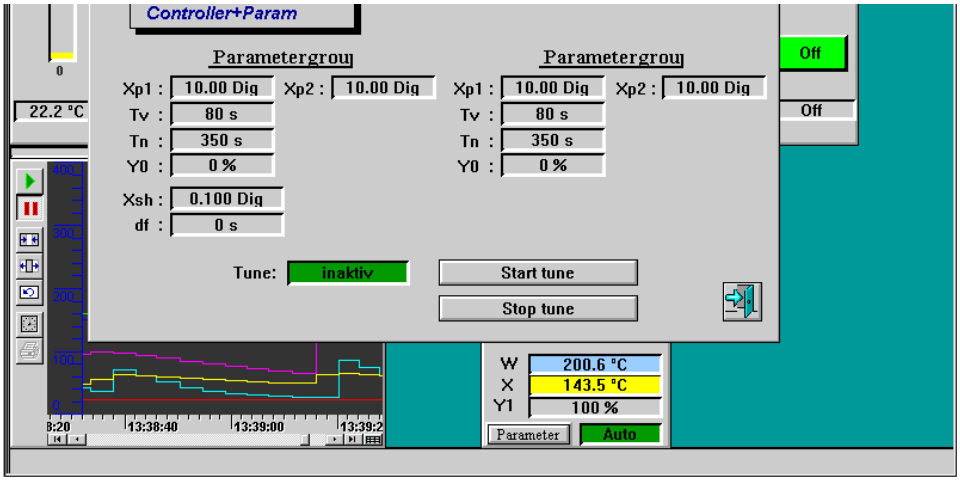
* Click on the field for the controller setpoint *W* in the grouped mimic



* Enter the setpoint values
* Confirm with *OK*
* Close the window

Altering controller parameters

* Click on the *Parameter* button

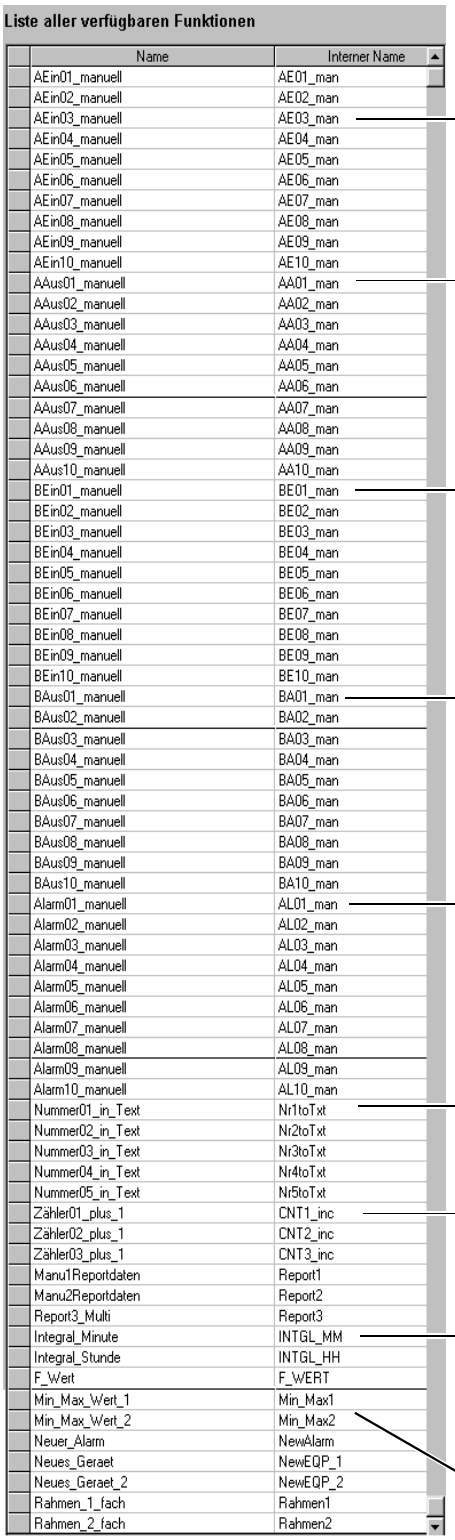


Branch to other screens

⇨ Chapter 6.2.2 “Button-control of mimics”

6.4.3 PCdirect functions

The PCdirect functionality makes it possible to enter data directly from the PC, without requiring a real device. The functions do not include I/O variables, which are enabled through the *Hardlock*.
The PCdirect functionality includes a number of functions:



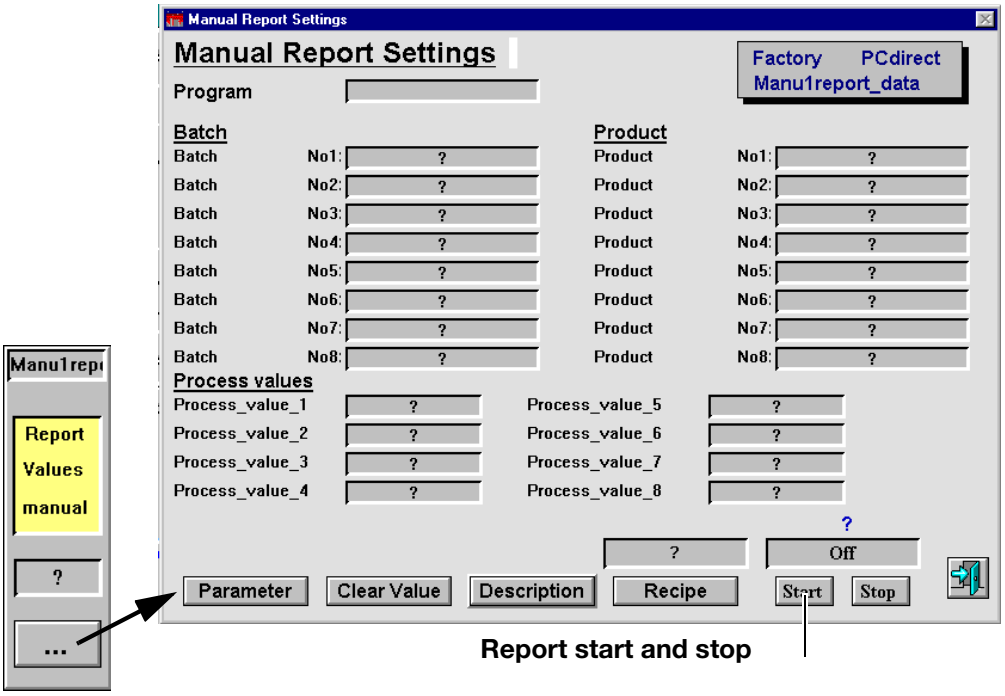
⇨ Chapter 4.5.1 “Function: integral hours, minutes”

This function can be used to enter product data and start a report.

✱ Click on the ... key (look for diagram)

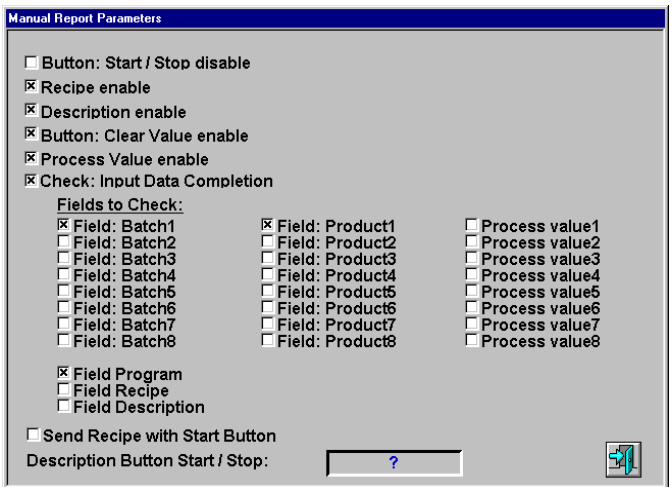
Manu1 report data

Here you can enter up to 8 different sets of batch data. This is necessary for reports where the process retains the same start and stop conditions, but different products are treated, such as baking painted components in batches for different manufacturers.



✱ Click on the parameter (all items marked by a cross will be shown)

Set up input mask

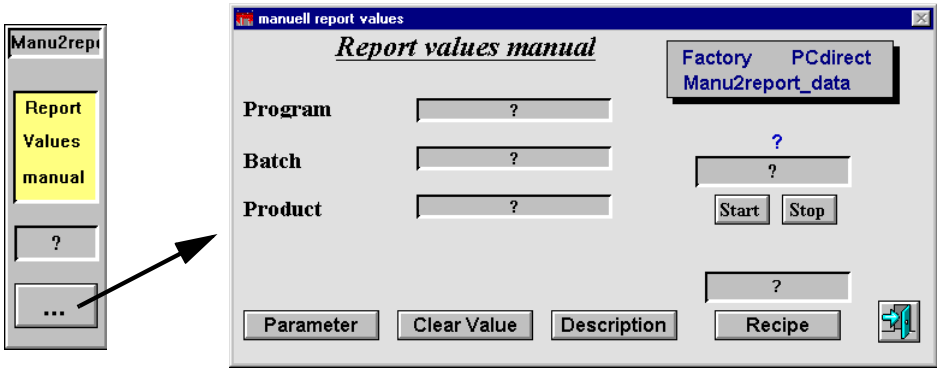


☞ These entries can later be used as search criteria, making it easier to find a report.

⇨ Chapter 6.5 “Reports”

This function is necessary if the report only requires one set of batch data.

Manu2 report data

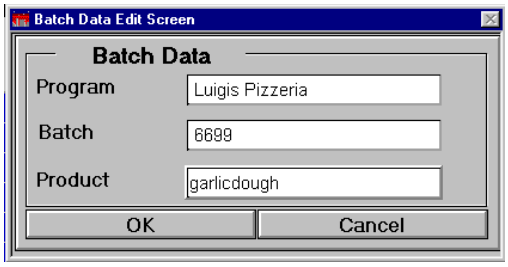


✱ Click on the parameter (all items marked by a cross will be shown)

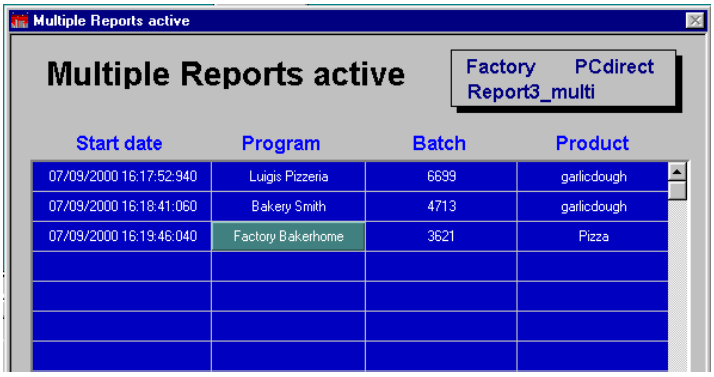
Report3-multi

This option for aquisition of batch data allows loading and removal at different times within a continuous process, without a standstill.

* Click on *New Report*

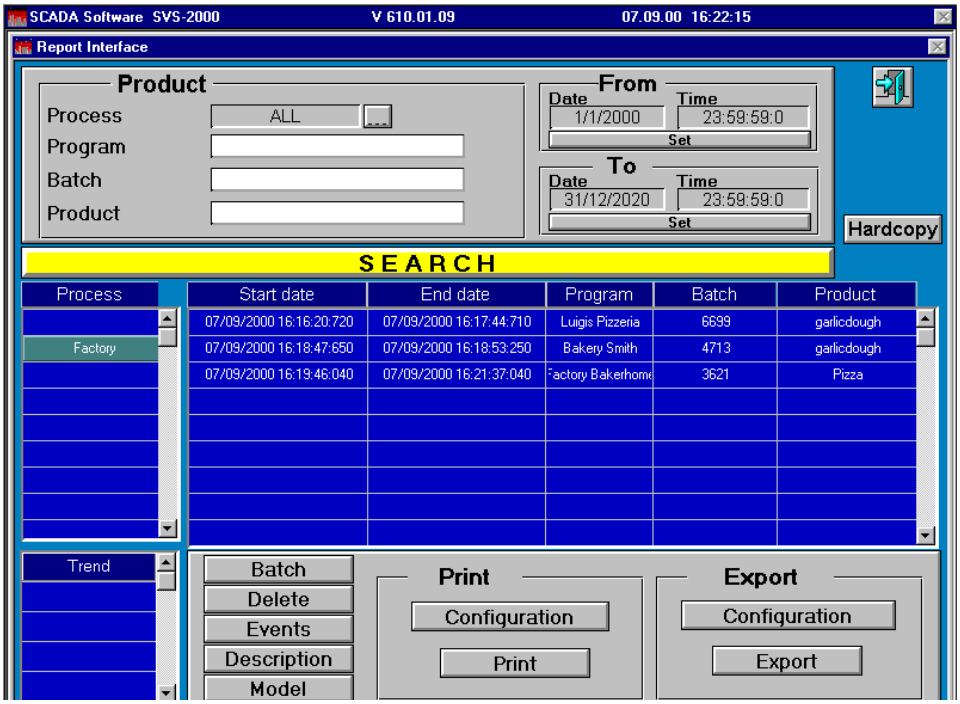


* Enter the data for Article 1
* Confirm with *OK*
  The report starts, and remains in the list until it is stopped.



* Click on the finished article, and press stop/cancel

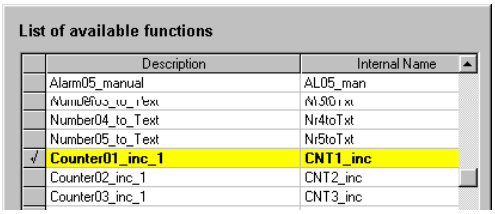
The entry disappears, and the report is entered into the reports search mask.



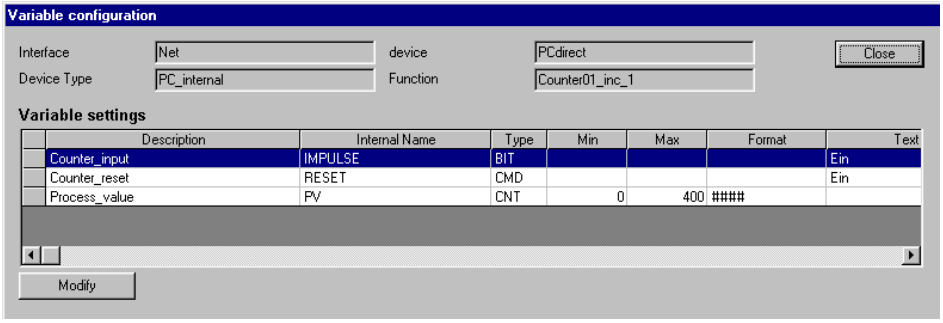
Pulse counter

The pulse counter counts binary/logic pulses, and shows them in the window. The logical linkage of the variables is set up at the configuration level, in a similar way to the integral function.

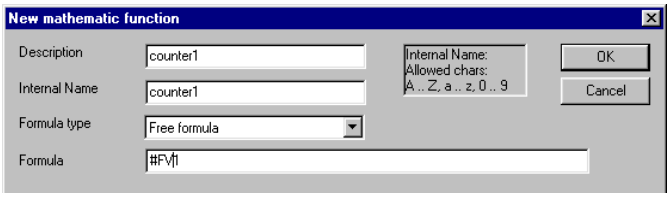
* Activate the pulse counter function (a tick appears)



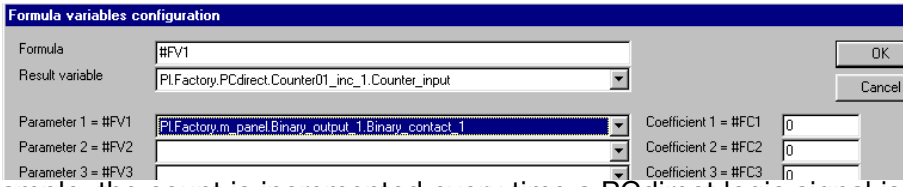
* Set up the required format in *Variable configuration*



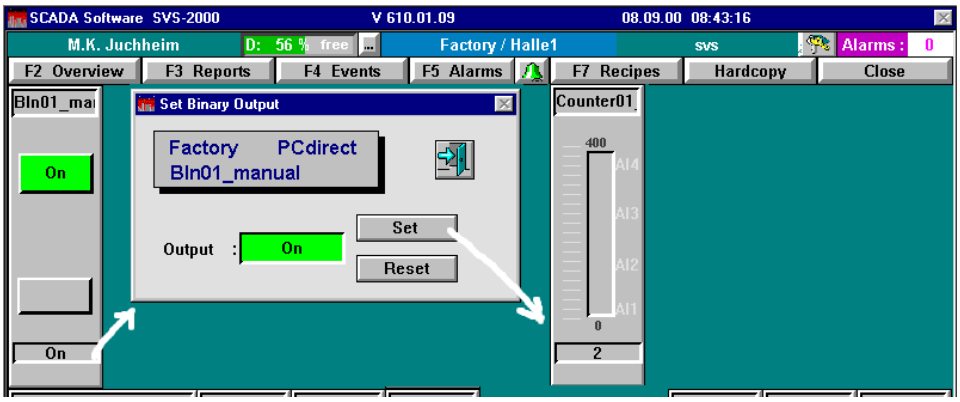
* Create a new mathematical function for *counter1*



* Link the pulse-count variable (result variable) to a logic signal

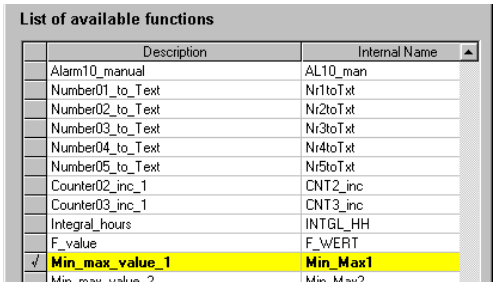


In this example, the count is incremented every time a PCdirect logic signal is set.

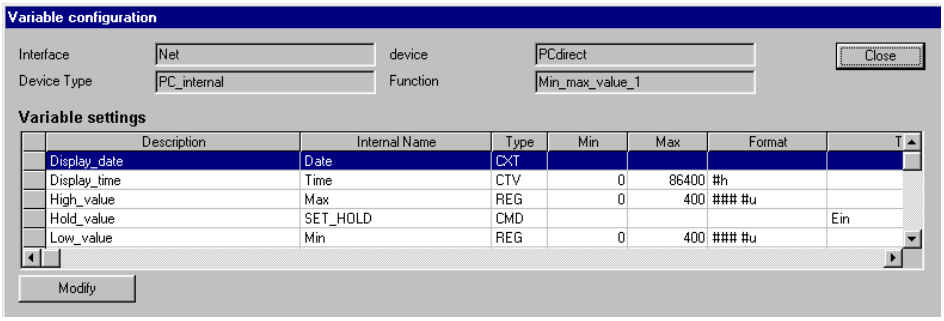


Min_max_value

* Activate the function *Min_max_value* (a tick appears)

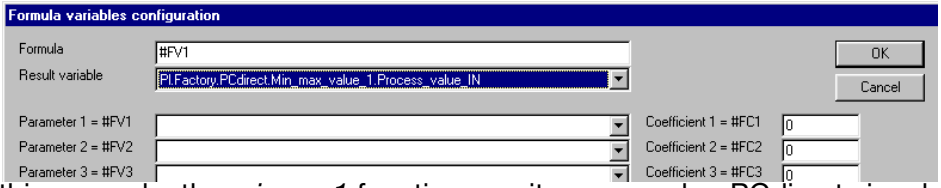


* Set up the required format in *Variable configuration*

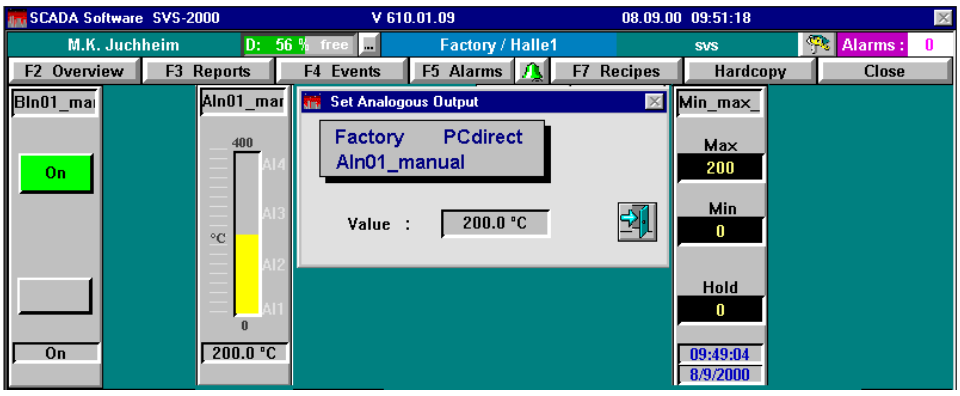


* Create a new mathematical function *minmax1*

* Link the process value input of the *minmax1* function (result variable) to an analog signal



In this example, the *minmax1* function monitors an analog PCdirect signal



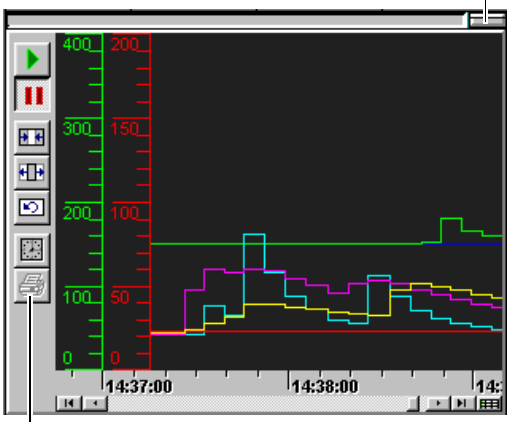
6.4.4 Calling up trend diagrams

Trend diagrams are a record over time of process-specific analog or digital signals. The selection of the variables is made at the configuration level, and the visualization (e.g. display colors) is set up at the parameter level.
Here the corresponding trend diagram is shown over the entire screen, and can be modified through special functions.

Display, full-screen

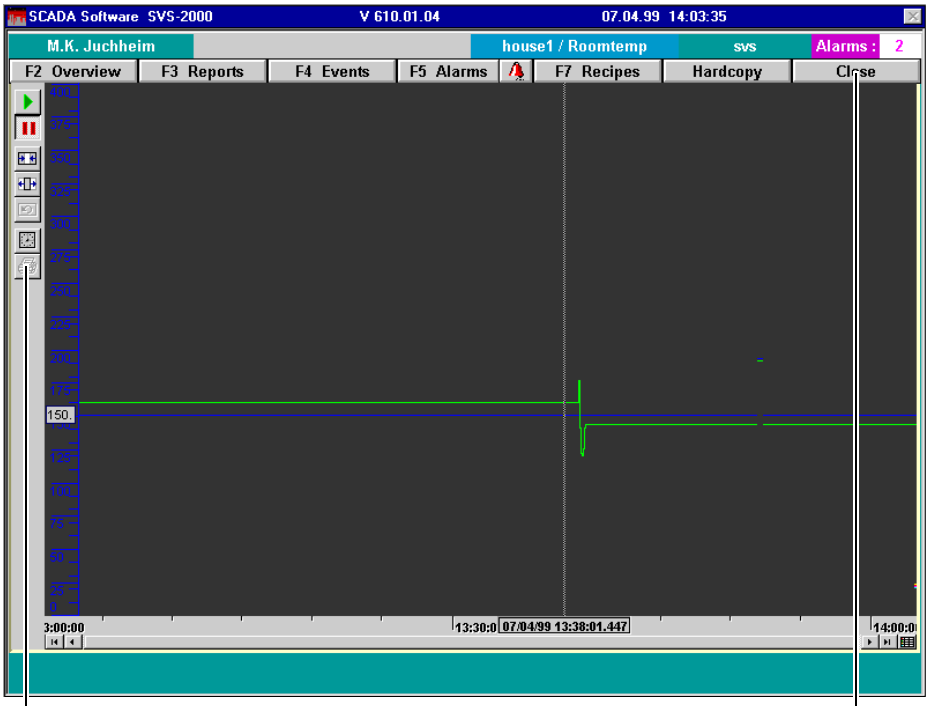
The time is shown along the abscissa, and the measurement range for the variable along the ordinate. The variables appear in the predetermined colors from left to right.

Full-screen display
Click here to enlarge the trend diagram to fill the entire SVS screen.



Function bar
On the left side of the trend diagram, for setting up the screen

* Press F2
* Select the process system
* Click on *Trends*
* Double-click on the required trend diagram



Special functions

Run, pause, shrink, expand, restore, historical, print

Close

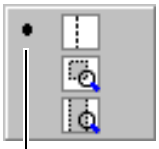
Closes the trend diagram

Trend diagram variables are recorded sequentially from left to right.

Stops the updating of the trend diagrams

Various functions are possible in this mode

* Press the right mouse button (the function window appears)

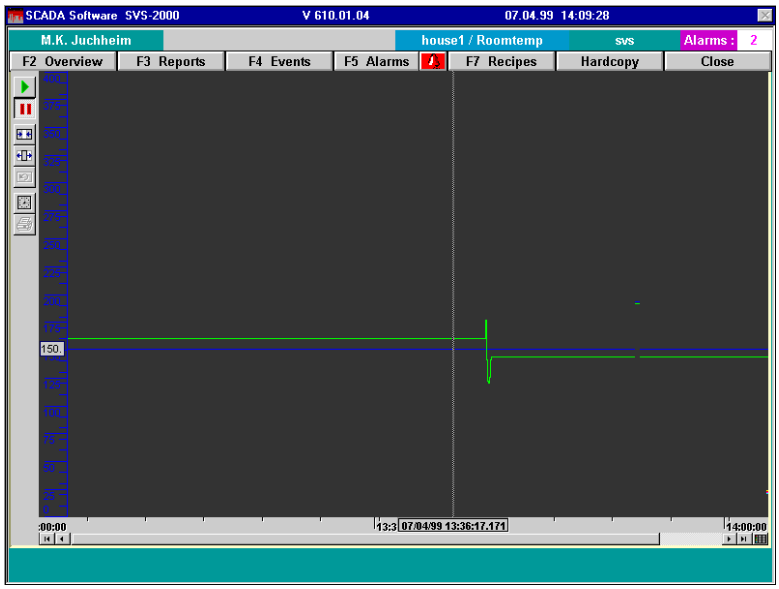


-Cursor for process value display
-Time frame
-Magnifier

Active function

Display process values

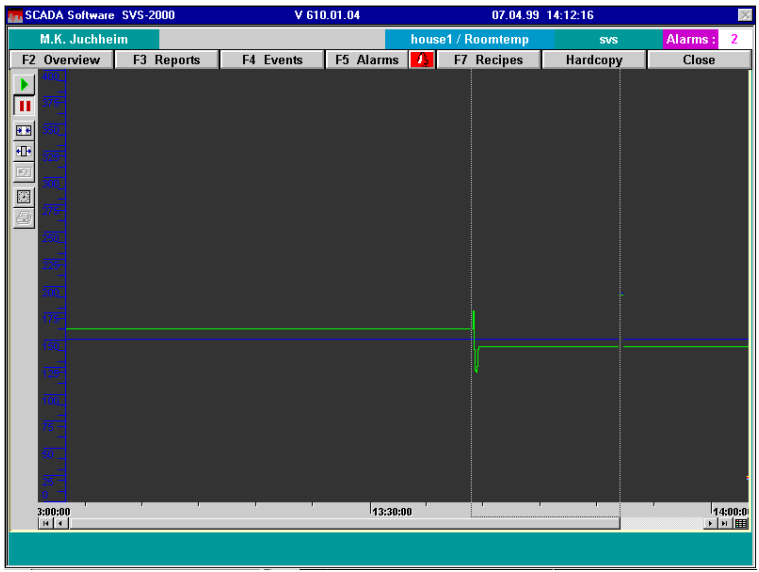
The actual process value for the selected variable at the point that is clicked on is shown in the ordinate (left side).



Time frame

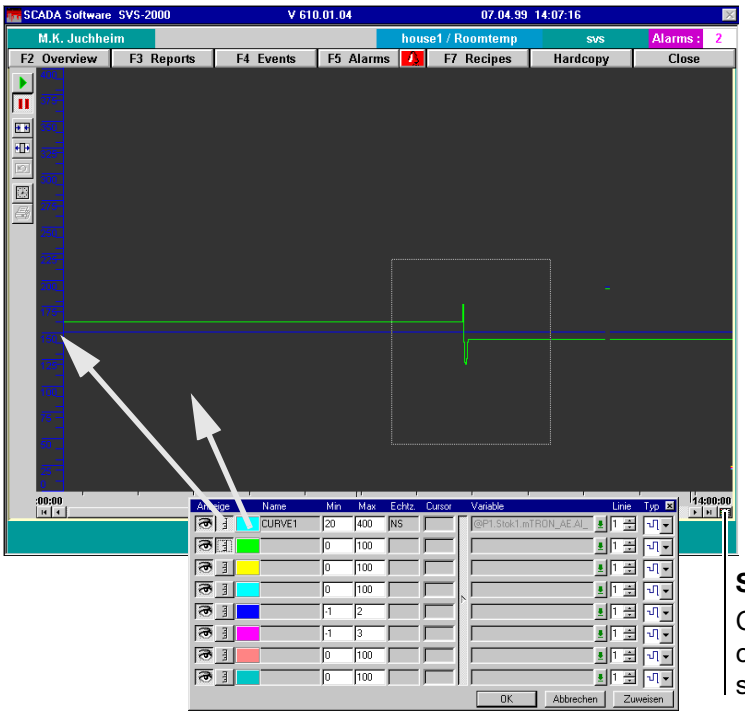
✱ Press the left mouse button, and keep it pressed

The section that is bounded by the 2 vertical lines is shown expanded along the time (horizontal) axis.



Magnifier

✱ Press the left mouse button and, keeping it pressed, pull out the frame



Special functions
Color settings for the curves which are shown, Y-axis scale

The marked frame is shown magnified along both the time axis and the amplitude axis.

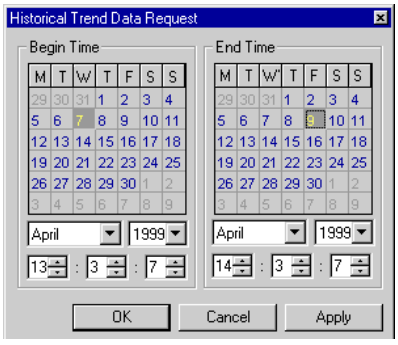
Shrinks the time scale

Expands the time scale

Restores the original condition (when the trend diagram was called up)

Use previously recorded data (historical data)

✱ Click on the clock symbol



✱ Enter start and stop dates/times

✱ Click on *OK*

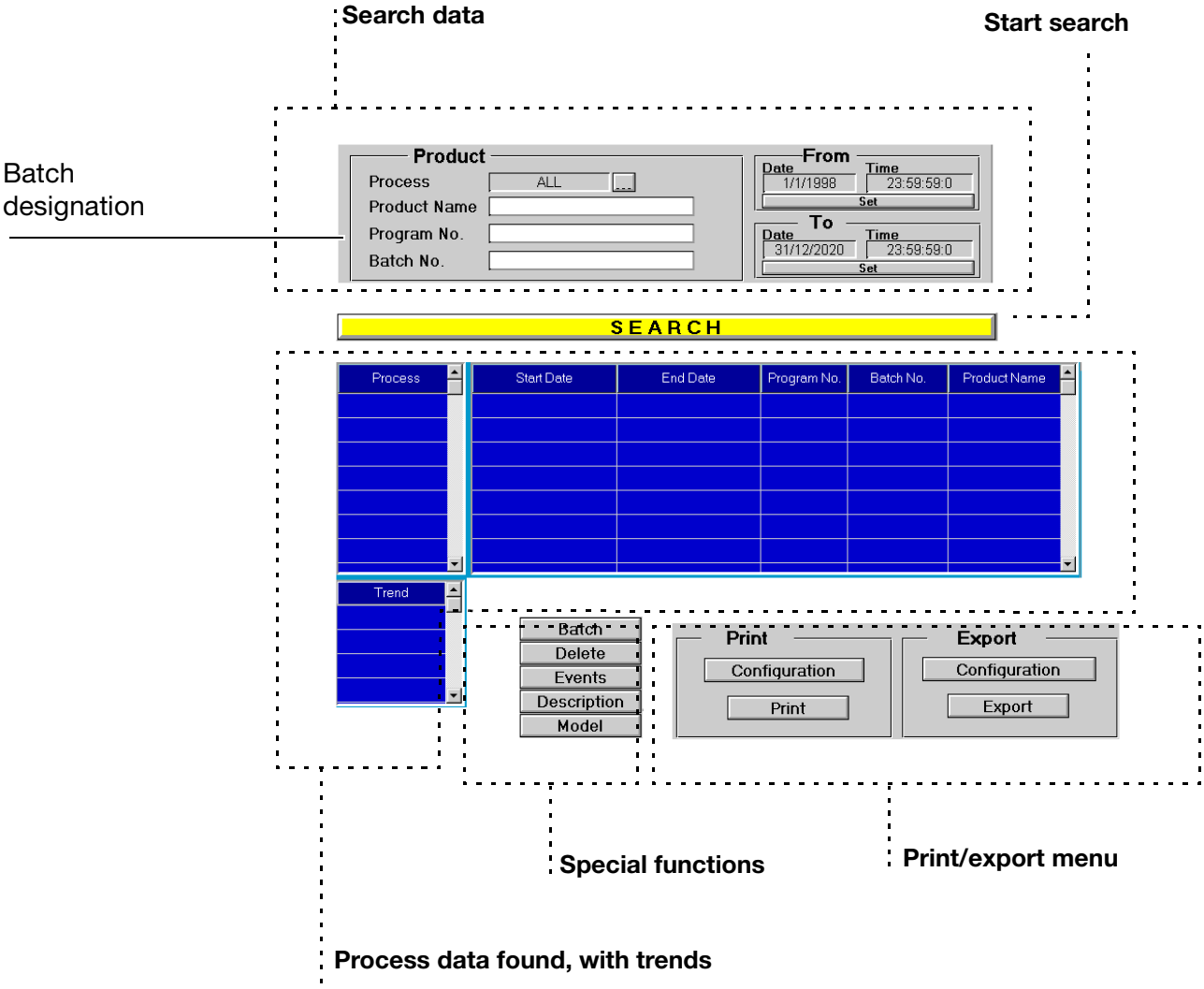
Close trend diagram

✱ Click on *Close*

6.5 Reports

F3 Reports

Reports provide a view into the past.
The top section of the screen shows numerous search and sort options that have been specially developed by JUMO to make it easier to find reports.



6.5.1 Search

Batch designation

The designation of these variables can be edited, and should be related to the variable concerned. Different batch designations can only be altered here, at the operating level.
These altered designations are then automatically updated in the following screen masks:

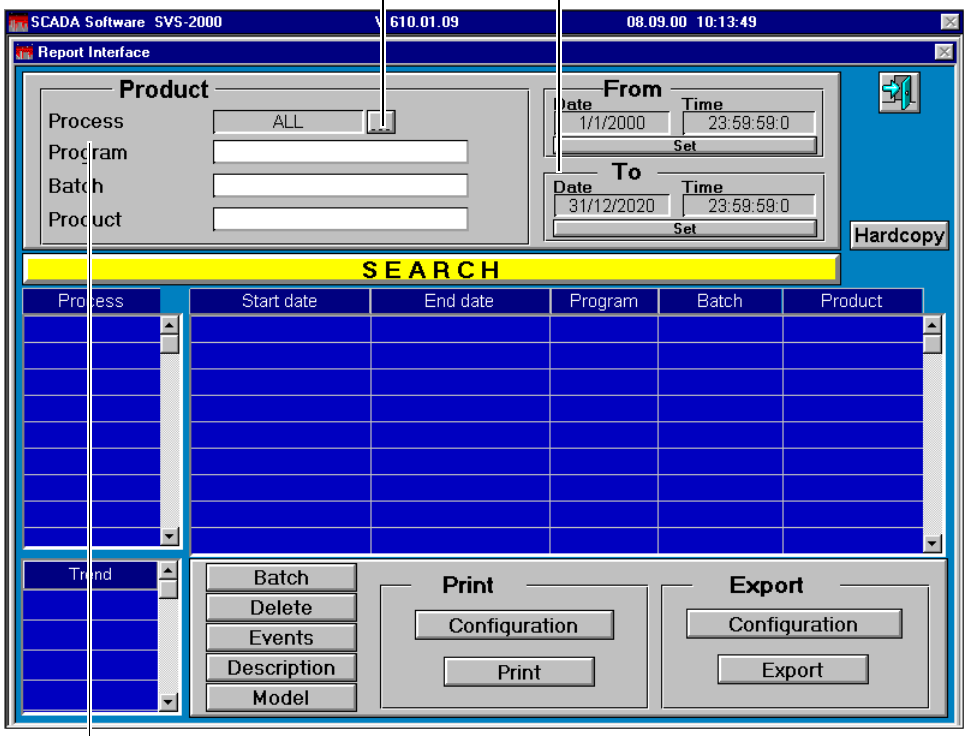
- report printout
- in the 3 PCdirect report functions: Manu1-, Manu2-, 3-Multi
- report search mask

This function searches for reports according to several adjustable factors. 5 different criteria can be used for searching in SVS-2000,

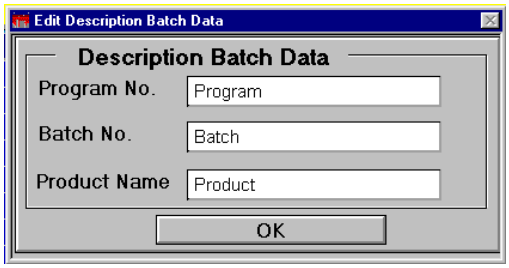
- the process in which the batch was produced
- each one of the 3 batch designations that were defined
- time

Select process
Click on the button for process selection

Search period from ... to ...
limits the period searched

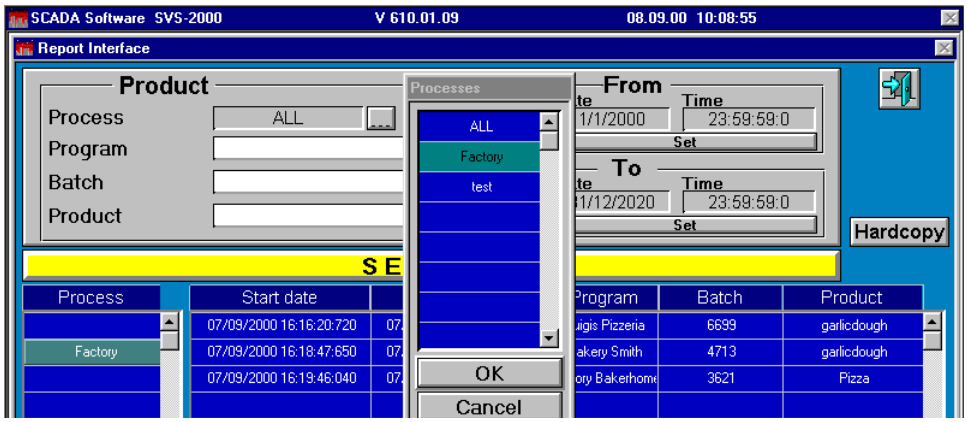


Edit batch designations
Click here to open a window for new designation texts



Search for process

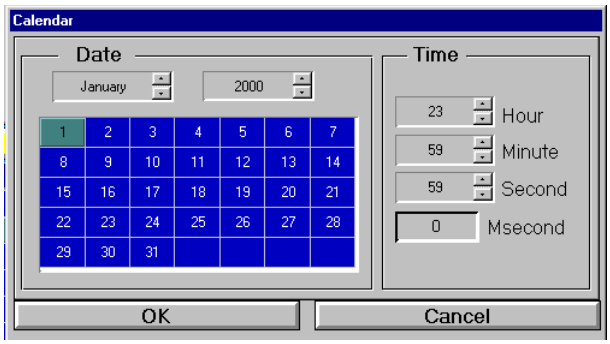
* Click on the button for process selection



* Select the required process system
* Confirm with *OK*
* Enter any batch data which are known

Limit the search period

* Click on *From* ➔ *Setting*

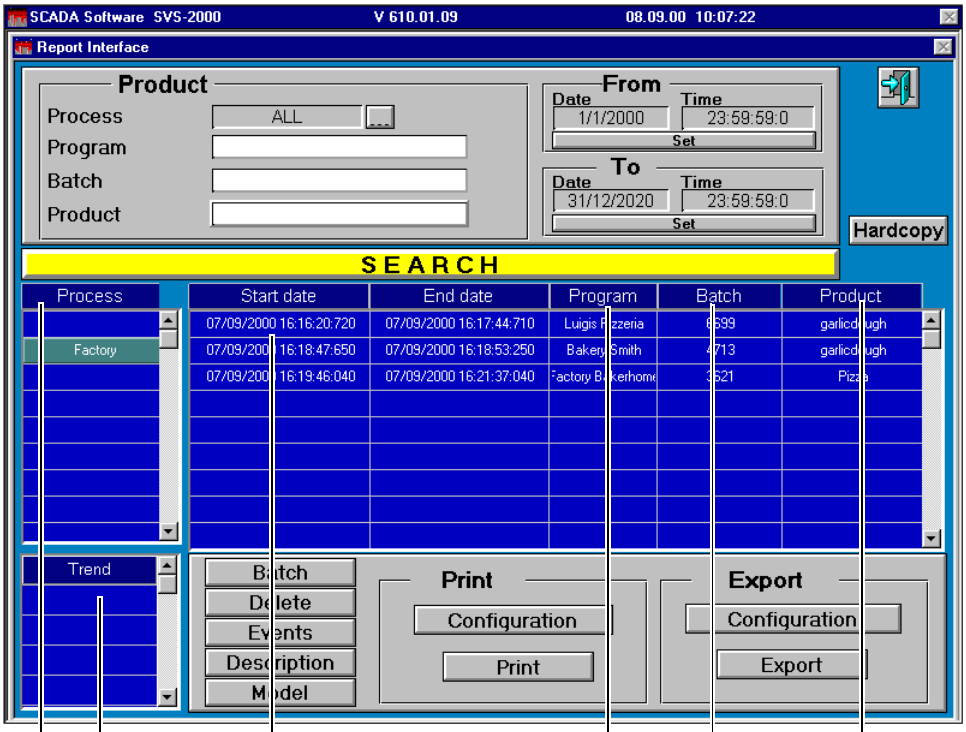


* Enter the time from when the report search starts
* Confirm with *OK*
* Repeat the procedure for the time *To* ➔ *Setting*

All the process systems will now be shown which have reports matching the specification.

6.5.2 Display search results

* Enter the data to narrow down the report search (time limits, product name)
* Click on the *Search* button



Editable batch designations
⇨ Chapter 6.5 “Reports”

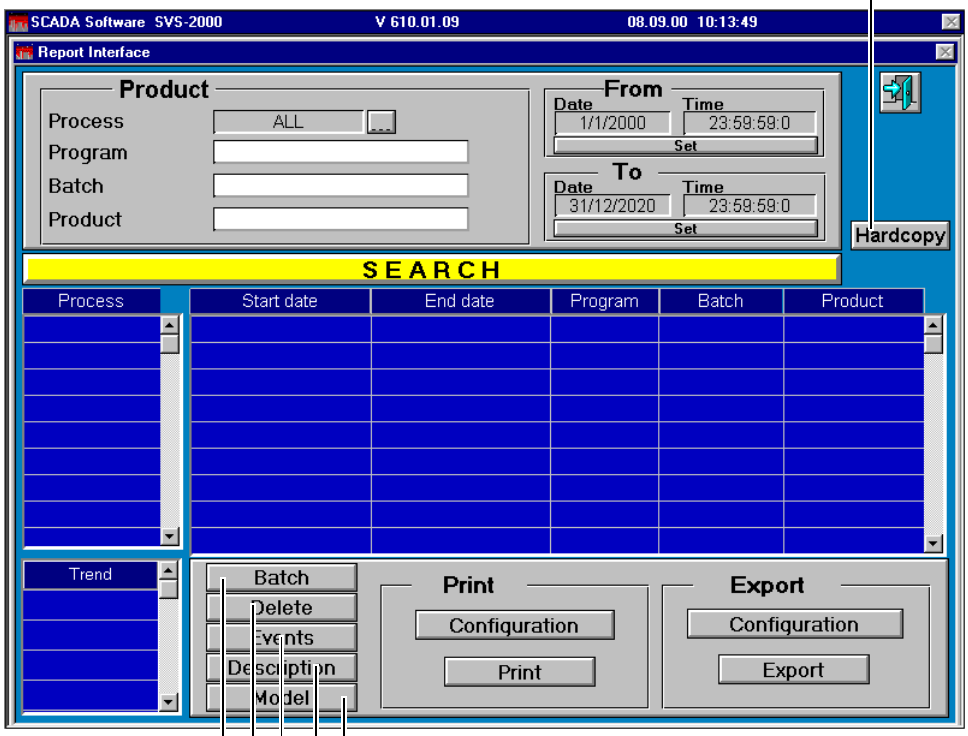
Start and end of report
Day, month, year, time

Trend diagrams
The trend diagrams are listed here, if a trend diagram was defined for the report being sought

Process systems
Here you can see all the processes that have been found, for which reports were made

A list appears on the screen, of all the reports that match the search criteria for the selected process system.

6.5.3 Special functions



Hard copy
produces a screen printout

Form sheet
An adaptable form for repeated comment texts, which is attached to the report
⇨ Chapter 6.5.4 “Print”

Description
Freely editable text for the batch

Events
A event list appears for the selected report

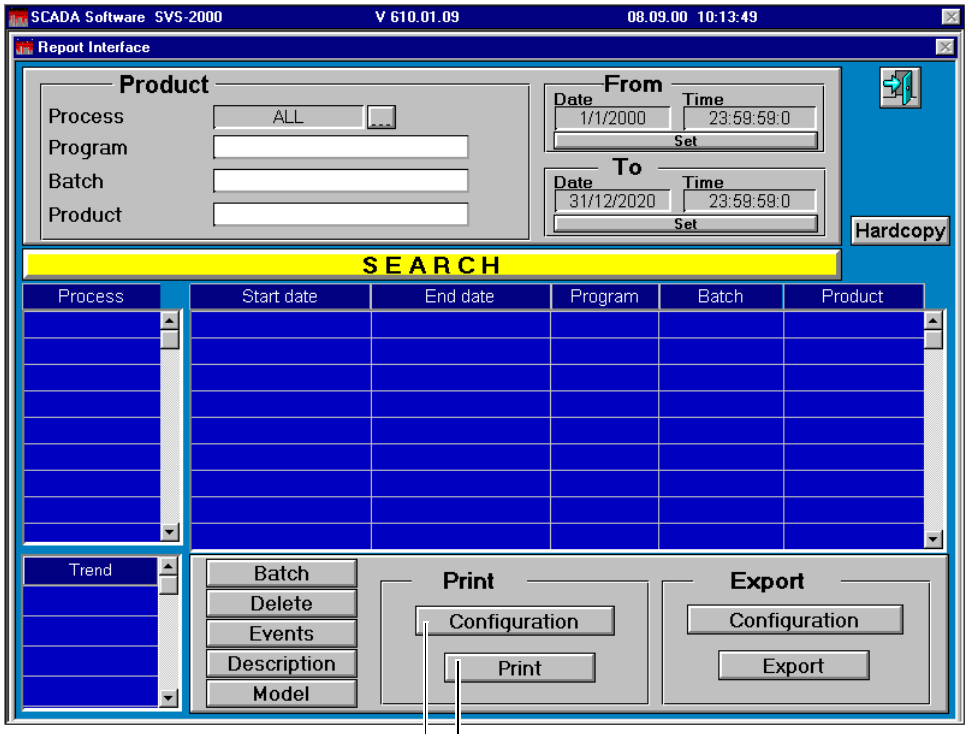
Delete selected report
Can only be carried out after entering the password

Batch data
For the subsequent entry or alteration of batch data

6.5.4 Print

This function configures the printout of the report, and carries it out.

Printing out is only possible if the print has previously been configured.

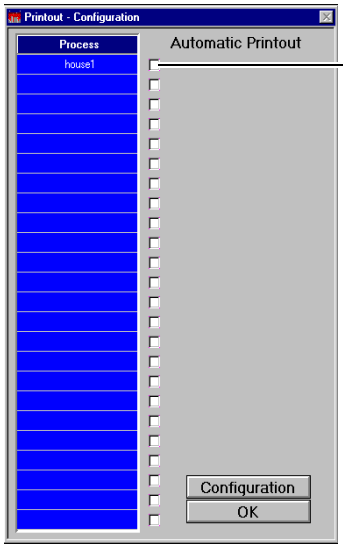


Print menu
Configuration

Manual
Print out the report selected above

Configuration

✱ Click on *Configuration*

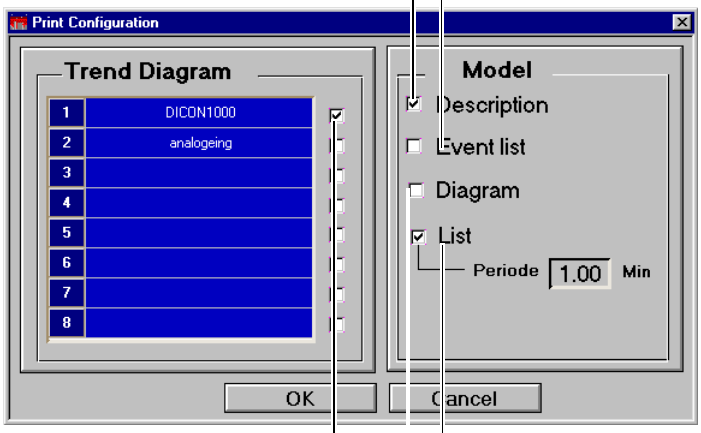


The reports are automatically printed out for all the process systems that have been marked

* Click to select the processes for which the reports should be automatically printed out at the end of the report (a tick appears).
* Click on *configuration*

Description
prints out comment lines

Event list
prints out events that occurred



Trend diagrams
If trend diagrams are available for the process system, they are entered here, and can be printed out if they are marked by a tick.

List
shows measurements in tabular form for the predefined period

Diagram
prints out a curve

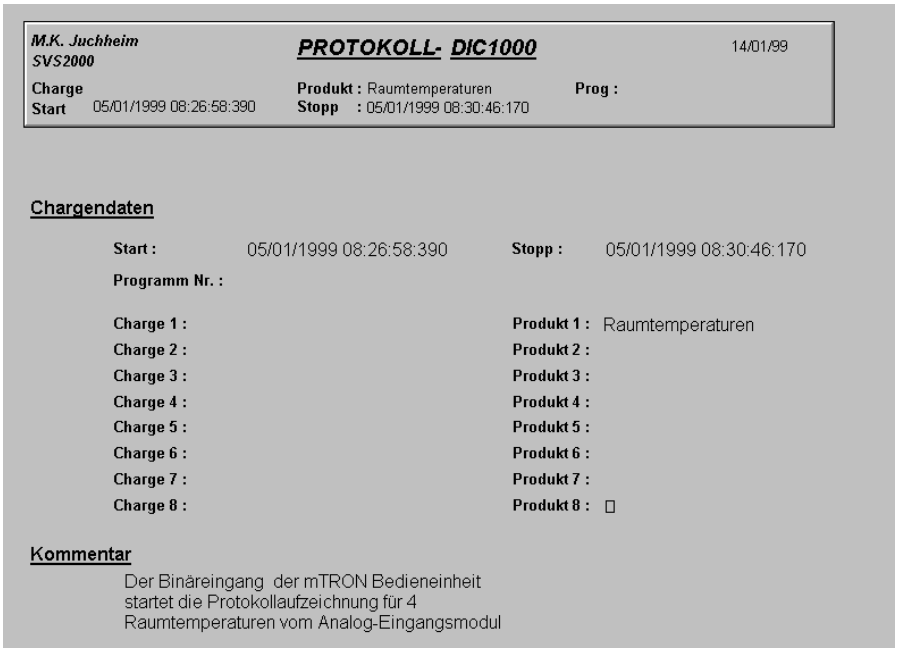
* Confirm with *OK*

Drucken

* Click on *Print*

The selected report will be printed out in the way it has been set up.

Description



M.K. Juchheim
SVS2000

PROTOKOLL- DIC1000 14/01/99

Charge
Start 05/01/1999 08:26:58:390
Produkt : Raumtemperaturen
Stopp : 05/01/1999 08:30:46:170
Prog :

Chargendaten

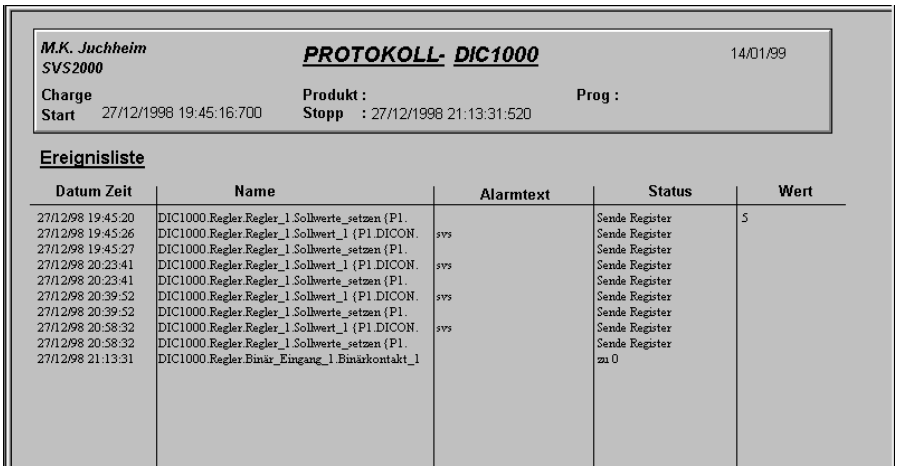
Start : 05/01/1999 08:26:58:390 Stopp : 05/01/1999 08:30:46:170
Programm Nr. :

Charge 1 :	Produkt 1 : Raumtemperaturen
Charge 2 :	Produkt 2 :
Charge 3 :	Produkt 3 :
Charge 4 :	Produkt 4 :
Charge 5 :	Produkt 5 :
Charge 6 :	Produkt 6 :
Charge 7 :	Produkt 7 :
Charge 8 :	Produkt 8 :

Kommentar

Der Binäreingang der mTRON Bedieneinheit
startet die Protokollaufzeichnung für 4
Raumtemperaturen vom Analog-Eingangsmodul

Events



M.K. Juchheim
SVS2000

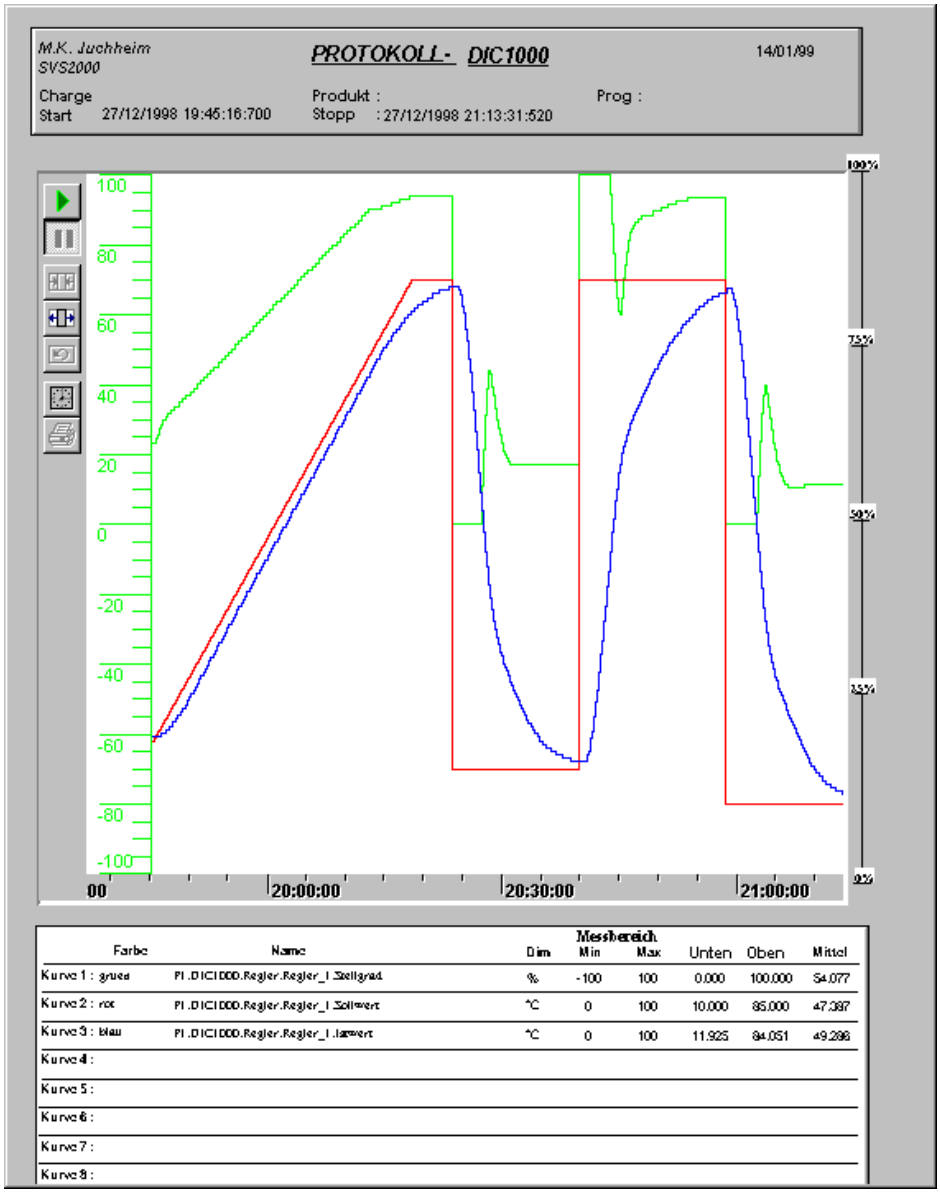
PROTOKOLL- DIC1000 14/01/99

Charge
Start 27/12/1998 19:45:16:700
Produkt :
Stopp : 27/12/1998 21:13:31:520
Prog :

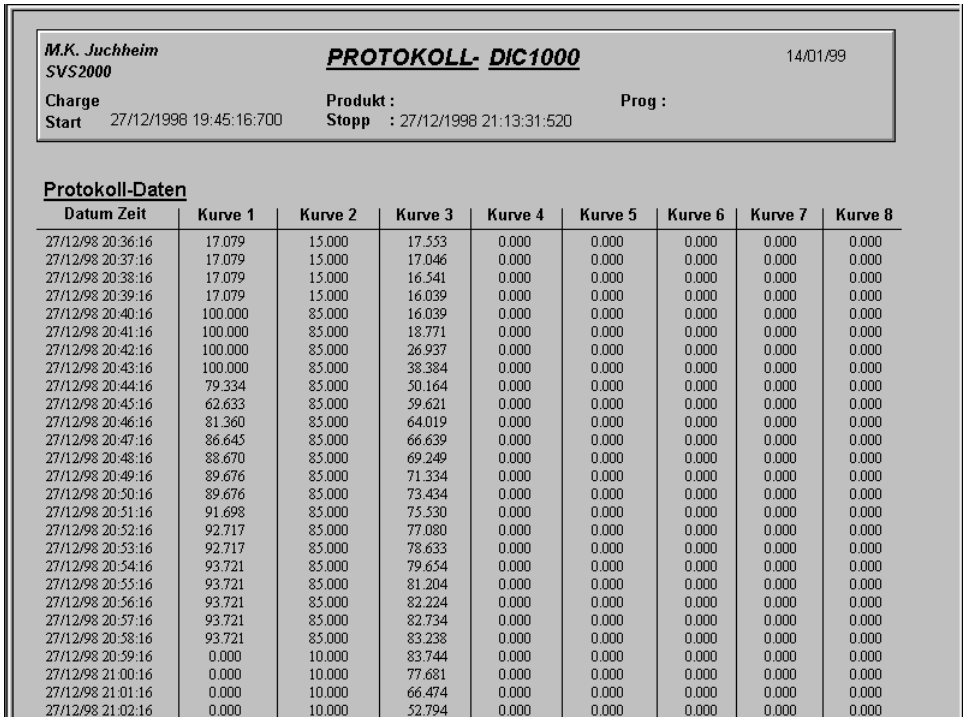
Ereignisliste

Datum Zeit	Name	Alarmtext	Status	Wert
27/12/98 19:45:20	DIC1000.Regler.Regler_1.Sollwerte_setzen {P1.		Sende Register	5
27/12/98 19:45:26	DIC1000.Regler.Regler_1.Sollwert_1 {P1.DICON.	svs	Sende Register	
27/12/98 19:45:27	DIC1000.Regler.Regler_1.Sollwerte_setzen {P1.		Sende Register	
27/12/98 20:23:41	DIC1000.Regler.Regler_1.Sollwert_1 {P1.DICON.	svs	Sende Register	
27/12/98 20:23:41	DIC1000.Regler.Regler_1.Sollwerte_setzen {P1.		Sende Register	
27/12/98 20:39:52	DIC1000.Regler.Regler_1.Sollwert_1 {P1.DICON.	svs	Sende Register	
27/12/98 20:39:52	DIC1000.Regler.Regler_1.Sollwerte_setzen {P1.		Sende Register	
27/12/98 20:58:32	DIC1000.Regler.Regler_1.Sollwert_1 {P1.DICON.	svs	Sende Register	
27/12/98 20:58:32	DIC1000.Regler.Regler_1.Sollwerte_setzen {P1.		Sende Register	
27/12/98 21:13:31	DIC1000.Regler.Binär_Eingang_1.Binärkontakt_1		zu 0	

Diagram


M.K. Juchheim
SVS2000
PROTOKOLL- DIC1000
14/01/99
Charge
Start 27/12/1998 19:45:16:700
Produkt :
Stopp : 27/12/1998 21:13:31:520
Prog :
100
80
60
40
20
0
-20
-40
-60
-80
-100
100%
75%
50%
25%
0%
00
20:00:00
20:30:00
21:00:00
Messbereich
Farbe Name Dim Min Max Unten Oben Mittel
Kurve 1 : grues PI.DIC1000.Regler.Regler_I.Stellgrad. % -100 100 0.000 100.000 54.077
Kurve 2 : rot PI.DIC1000.Regler.Regler_I.Sollwert °C 0 100 10.000 85.000 47.387
Kurve 3 : blau PI.DIC1000.Regler.Regler_I.Istwert °C 0 100 11.925 84.051 49.286
Kurve 4 :
Kurve 5 :
Kurve 6 :
Kurve 7 :
Kurve 8 :

List



M.K. Juchheim
SVS2000

PROTOKOLL- DIC1000

14/01/99

Charge
Start 27/12/1998 19:45:16:700

Produkt :
Stopp : 27/12/1998 21:13:31:520

Prog :

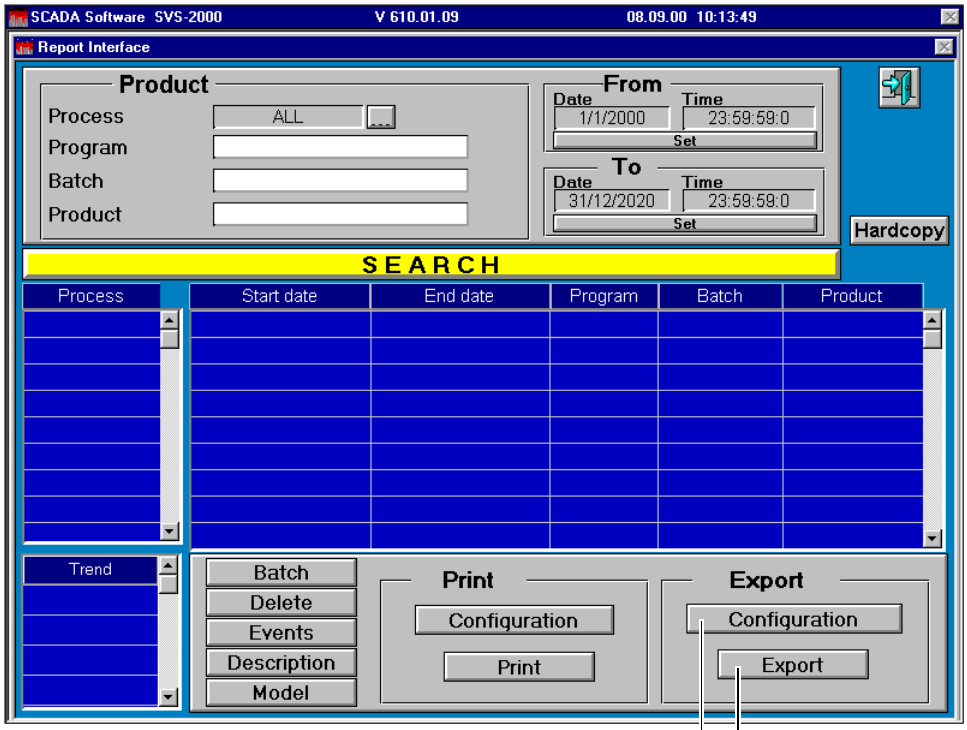
Protokoll-Daten

Datum Zeit	Kurve 1	Kurve 2	Kurve 3	Kurve 4	Kurve 5	Kurve 6	Kurve 7	Kurve 8
27/12/98 20:36:16	17.079	15.000	17.553	0.000	0.000	0.000	0.000	0.000
27/12/98 20:37:16	17.079	15.000	17.046	0.000	0.000	0.000	0.000	0.000
27/12/98 20:38:16	17.079	15.000	16.541	0.000	0.000	0.000	0.000	0.000
27/12/98 20:39:16	17.079	15.000	16.039	0.000	0.000	0.000	0.000	0.000
27/12/98 20:40:16	100.000	85.000	16.039	0.000	0.000	0.000	0.000	0.000
27/12/98 20:41:16	100.000	85.000	18.771	0.000	0.000	0.000	0.000	0.000
27/12/98 20:42:16	100.000	85.000	26.937	0.000	0.000	0.000	0.000	0.000
27/12/98 20:43:16	100.000	85.000	38.384	0.000	0.000	0.000	0.000	0.000
27/12/98 20:44:16	79.334	85.000	50.164	0.000	0.000	0.000	0.000	0.000
27/12/98 20:45:16	62.633	85.000	59.621	0.000	0.000	0.000	0.000	0.000
27/12/98 20:46:16	81.360	85.000	64.019	0.000	0.000	0.000	0.000	0.000
27/12/98 20:47:16	86.645	85.000	66.639	0.000	0.000	0.000	0.000	0.000
27/12/98 20:48:16	88.670	85.000	69.249	0.000	0.000	0.000	0.000	0.000
27/12/98 20:49:16	89.676	85.000	71.334	0.000	0.000	0.000	0.000	0.000
27/12/98 20:50:16	89.676	85.000	73.434	0.000	0.000	0.000	0.000	0.000
27/12/98 20:51:16	91.698	85.000	75.530	0.000	0.000	0.000	0.000	0.000
27/12/98 20:52:16	92.717	85.000	77.080	0.000	0.000	0.000	0.000	0.000
27/12/98 20:53:16	92.717	85.000	78.633	0.000	0.000	0.000	0.000	0.000
27/12/98 20:54:16	93.721	85.000	79.654	0.000	0.000	0.000	0.000	0.000
27/12/98 20:55:16	93.721	85.000	81.204	0.000	0.000	0.000	0.000	0.000
27/12/98 20:56:16	93.721	85.000	82.224	0.000	0.000	0.000	0.000	0.000
27/12/98 20:57:16	93.721	85.000	82.734	0.000	0.000	0.000	0.000	0.000
27/12/98 20:58:16	93.721	85.000	83.238	0.000	0.000	0.000	0.000	0.000
27/12/98 20:59:16	0.000	10.000	83.744	0.000	0.000	0.000	0.000	0.000
27/12/98 21:00:16	0.000	10.000	77.681	0.000	0.000	0.000	0.000	0.000
27/12/98 21:01:16	0.000	10.000	66.474	0.000	0.000	0.000	0.000	0.000
27/12/98 21:02:16	0.000	10.000	52.794	0.000	0.000	0.000	0.000	0.000

6.5.5 Export

If the variables require further processing in another program, then this function can be used to export them as a file.

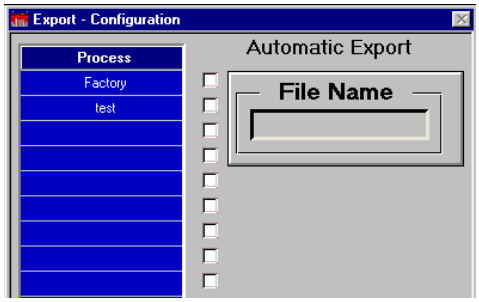
Export is only possible after the configuration has been carried out.



Export menu
Configuration

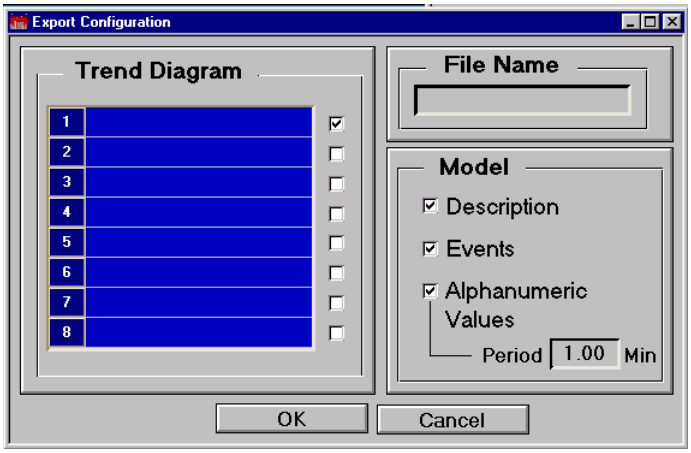
Manual
Export the report selected above

* Click on *Configuration*



* Click to select the process system which is to be automatically exported.
* Enter the directory

* Click on *Configuration*



* Enter the file name
* Confirm with *OK*

Export The selected report is exported with the defined name in ASCII format, as configured.

6.6 Events

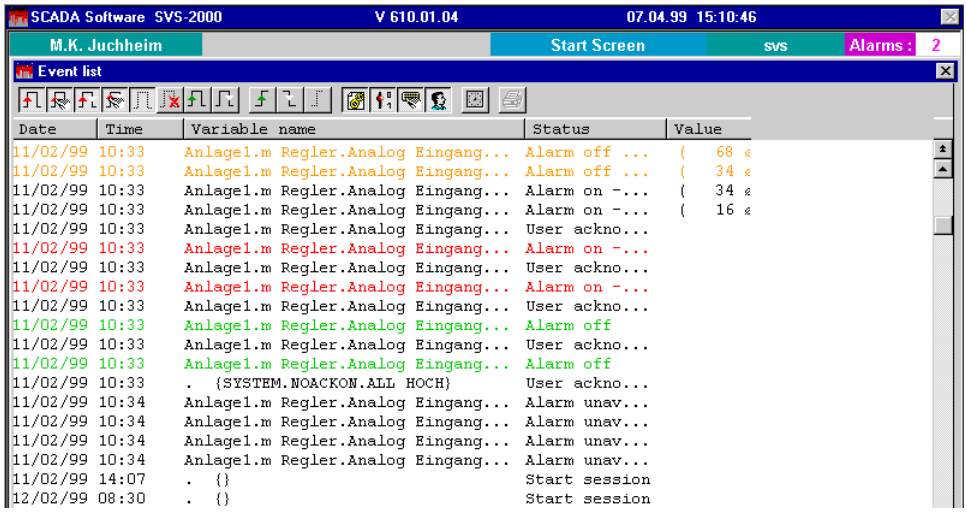
F4 Events

All overlimit conditions of analog variables or binary/logic switching functions are entered into the events list, in chronological order. The switching limits for analog variables, or the switching edge for logic variables, are set up at the configuration level, together with the corresponding texts.

⇨ Chapter 4.3.4 “Variable format”

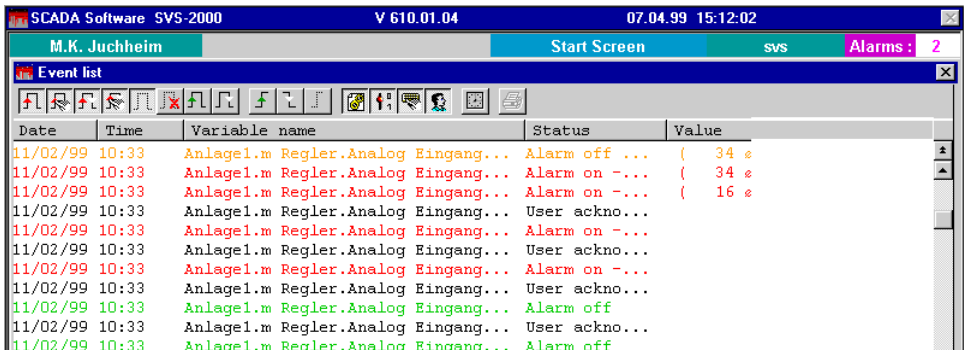
Global

All the events that occur in the entire plant are included in this list.



Process-specific

This list only includes events that occur in devices which have been defined for the specific process system.



Functions in the menu bar

Print
Prints out the selected alarms

Time stamp filter
⇨ Chapter 6.6.1 “Filter for time stamp”

Logon, logoff

Acknowledge alarm

Transmit/send

Transmit programs

Invalid bit(s)

Bit OFF

Bit ON

Mask alarms
Masks (suppresses) the selected events

Activated alarms
Unmasks (activates) the selected events

Masked by operator
Shows the invalid events, which were masked by the operator

Invalid
Shows all events with a “invalid” status

Trailing edge
Shows all inactive, acknowledged alarms

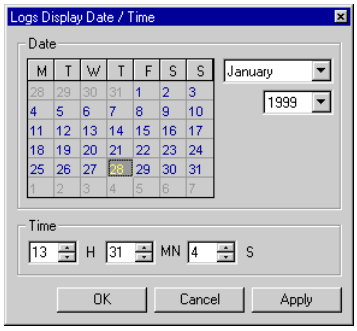
Trailing edge
Shows all inactive, unacknowledged alarms

Leading edge
Shows all active, acknowledged alarms

Leading edge
Shows all active, unacknowledged alarms

6.6.1 Filter for time stamp

* Click on the clock symbol



* In the calendar, set the time for starting to record events in the events list

6 Operation

6.7 Alarms

F5 Alarms

Overload conditions of analog variables and logic alarm functions are recorded in the alarm list. Only the most recent status of the alarms is shown here. Acknowledged alarms are no longer displayed. In this respect it is different from the events list, which keeps a timed record of all events.

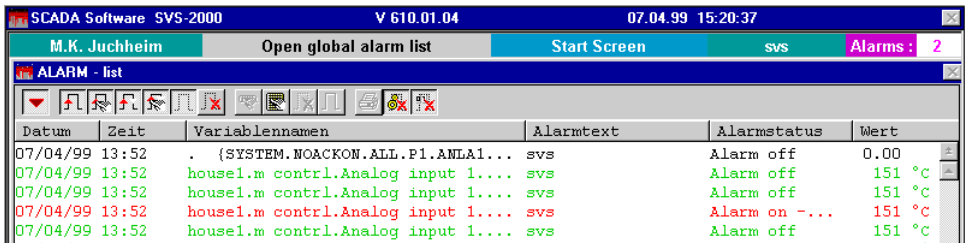
Acknowledged alarms

The decision to enter a variable in the alarm list if it goes out of limit is made at the configuration level. The switching levels for analog signals and the switching edges for logic signals are also set there, together with the corresponding texts.

⇨ Chapter 4.3.4 “Variable format”
Altering logic variables

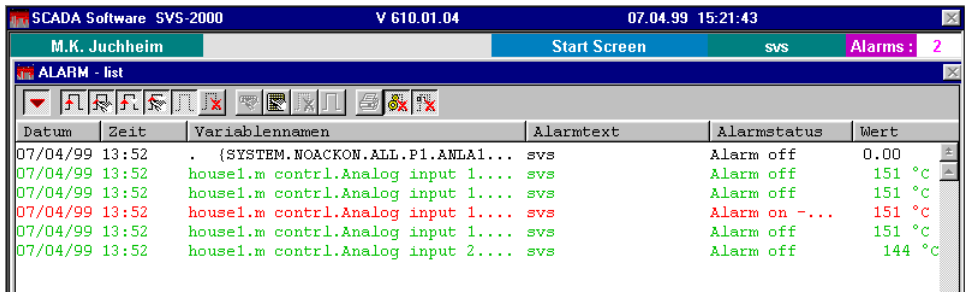
Global

All the alarms that have occurred for the entire plant are included in this list.



Process-specific

This list only includes the alarms that have occurred in devices which have been defined for the specific process system.



Functions in the menu bar

Print
Prints out the selected alarms

Activate
Unmasks (activates) the selected alarms

Mask alarms
Masks (suppresses) the selected alarms

Acknowledge all
Acknowledge all selected alarms

Acknowledge
Acknowledge the selected alarm

Masked by operator
Shows the invalid alarms, which were masked by the operator

Invalid
Shows all alarms with a “invalid” status (pink)

Trailing edge
Shows all inactive, acknowledged alarms

Trailing edge
Shows all inactive, unacknowledged alarms (green)

Leading edge
Shows all active, acknowledged alarms

Leading edge
Shows all active, unacknowledged alarms (red, blinking)

Mode
2 green arrows pointing down: enter alarms in list
1 red arrow pointing down:

6.7.1 Color interpretation

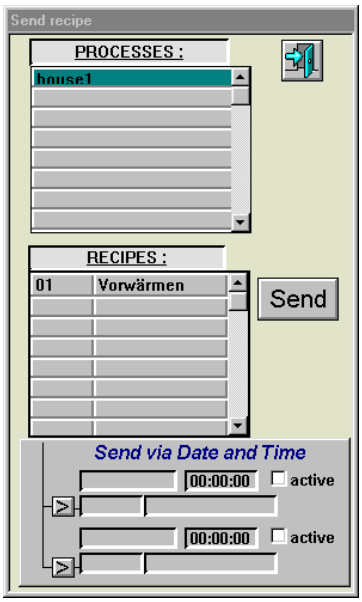
red, blinking	Alarm condition: active, unacknowledged
orange	Alarm condition: inactive, unacknowledged
green	Alarm condition: inactive, unacknowledged

6.8 Recipes

F7 Recipes

Here you can determine which recipes are transmitted to which processes, and when.

* Press F7
* Select the process
  All the recipes that are available for this process will now appear

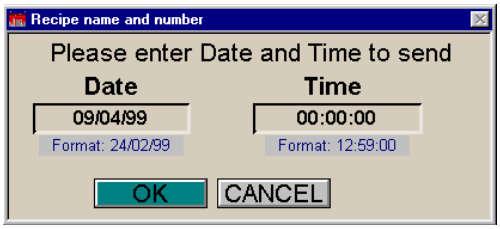


* Click on the required recipe

Transmit immediately with *Send,* or transmit at a specified date and time.

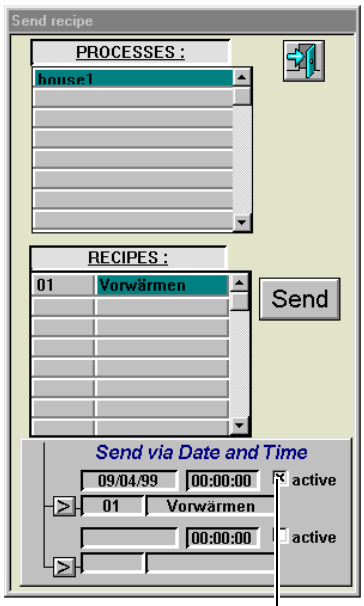
Send

Send at date and time



* Enter the date in the format shown
* Enter the time in the format shown
* Confirm the selected recipe with the > key
* Click the *active* check box to activate

A second starting time can be entered for another recipe in the same process system. This will also have to be activated as described above.



active

When the recipe has been transmitted, the x disappears, and the time changes to 00:00:00

7.1 Volume of data on hard disk

The volume of data that is required by the SVS-2000 on the hard disk consists of 3 major components:

1.) the SVS-2000 software (basic software for a new installation),

2.) process system data that you have input yourself at the configuration and parameter levels,

3.) archive data which were recorded during operation.

Important parameters that have an influence:

Number of variables

The number of variables which are recorded in the archives on the hard disk.

⇨ Chapter 4.4.2 “Recording variables”

Events

The number of combinations of logic signals for the alarm and events list.

⇨ Chapter 6.6 “Events”

Polling cycle

This is determined by the number of devices that are attached to a COM interface. All devices are polled sequentially. After the last device has been polled, the polling cycle starts again.

⇨ Chapter 3.1.2 “Defining the interfaces”

Deadband

A deadband is established around every measurement, with a width of 0.5% of the measurement range. A new value is only stored when the value goes outside this band (excursion). So if the measured value remains stationary there is no fresh storage.

Sampling interval

This is the interval between successive checks on the measured signal, to see if it has gone outside the deadband. Measurements are only passed on for storage in this rhythm, so it effectively creates a (time) filter for deadband excursions.
If 0 is set, then all excursions outside the deadband will be recorded.

⇨ Chapter 4.4 “Reports”

Hold time

This specifies how long the data must be stored in the PC before older data can be overwritten.

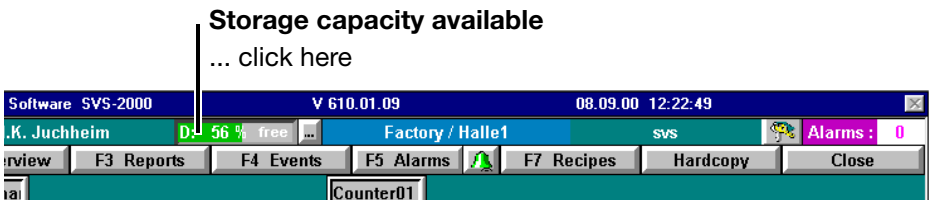
⇨ Chapter 4.1 “Contents”

Result:

It is not possible to calculate the storage requirements in advance. You will have to observe the storage consumption over a typical time period, and then extrapolate for the factor of the holding time.

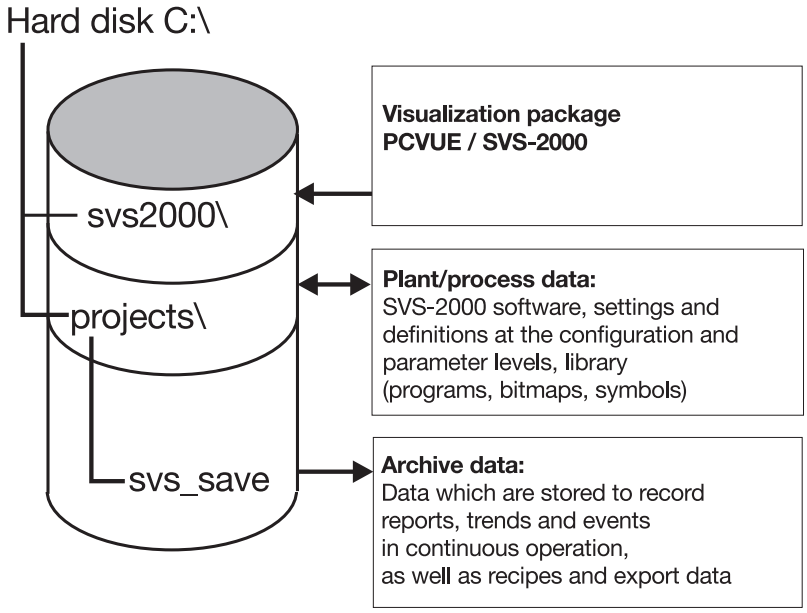
In this way, you can obtain an approximate figure for data archiving requirements.

* Observe the change in the hard disk capacity over a known period.



7.2 Data organization

After a standard installation, the SVS-2000 software has the following directory structure on the hard disk:



Backup

SVS-2000 CD

If alterations are made at configuration or parameter levels.

⇨ Chapter 7.2.1 “Saving data on a diskette”

?
The user’s responsibility

⇨ Chapter 7.2.4 “Backing up archive data (Backup2)”

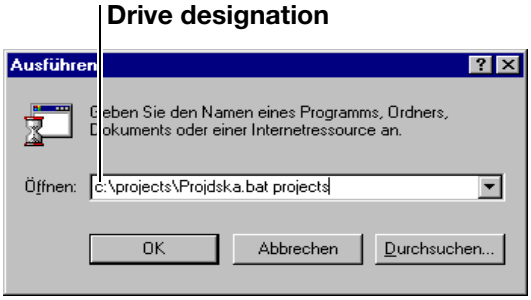
All the process-specific measurements and data are collected in the svs_save directory. Saving the data is the user’s responsibility.

7.2.1 Saving data on a diskette

After every alteration of the SVS-2000 settings at the configuration or parameter level, there are changes in important settings for the process system. These (altered) data must always be saved on a diskette or other storage medium.

Label the diskettes with every new version level, archive them in a safe place, and keep them away from harmful environmental influences, such as dust, moisture, strong magnetic fields, or high ambient temperatures!

* Use the command *projdisk projects* to save the configuration and parameter data to a diskette.



The file is compressed, and stored on the disk under the name *Projects.zip*

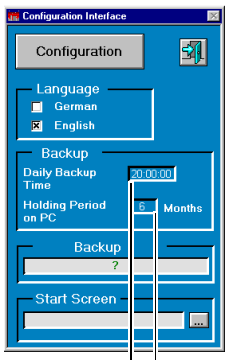
7.2.2 Restoring plant/process system data from a diskette

⇨ Chapter 2.7.4 “Step 4: Restore plant/process data from diskette”

7.2.3 Backup archive data in the svs_save directory

Archive data are data that are recorded in operation. They are updated once daily in the c:\ svs2000\svs_save directory. You can set the time for this action yourself.

When the defined holding period has elapsed, older data will automatically be overwritten!



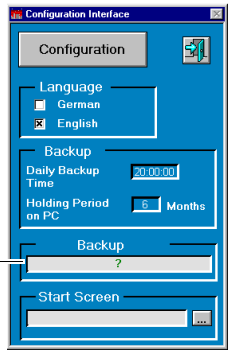
Backup time
Report and event data are saved in the project directory svs_save at the specified time.

Holding period
When this period has elapsed, any older archive data will be overwritten, and can no longer be processed!

7.2.4 Backing up archive data (Backup2)

This form of data backup is necessary to cover the event of a hard disk failure. It should be carried out at regular intervals, and kept in a safe place. After a lengthy period of continuous operation there may be several Mbytes of accumulated data. So a suitable storage medium and a sensible archiving cycle should be chosen.

SVS-2000 provides a specially adapted function for this purpose. This function copies the svs_save directory to a defined directory on the hard disk. The entry mask which is required for the path can be found at the configuration level (F12). If nothing is entered, the function is not activated.



Backup2 directory
The data from svs_save are also copied to this directory at the specified time.

7.2.5 What to do after a hard drive crash?

This is the worst possible situation that you can get into when working with a PC. In most cases you will not be able to read any more data from the hard disk.

* Reinstall the operating system from scratch
* Reinstall the SVS-2000 software, from the CD
* Use the command *laodproa projects* to reload your last backup of the plant/process configuration into the project directory.
* Restore the latest plant/process backup data to the svs_save directory, (using, for instance, Windows Explorer).
* Contact JUMO for any other steps that may be necessary

7 Saving data

8.1 Barcode reader connection

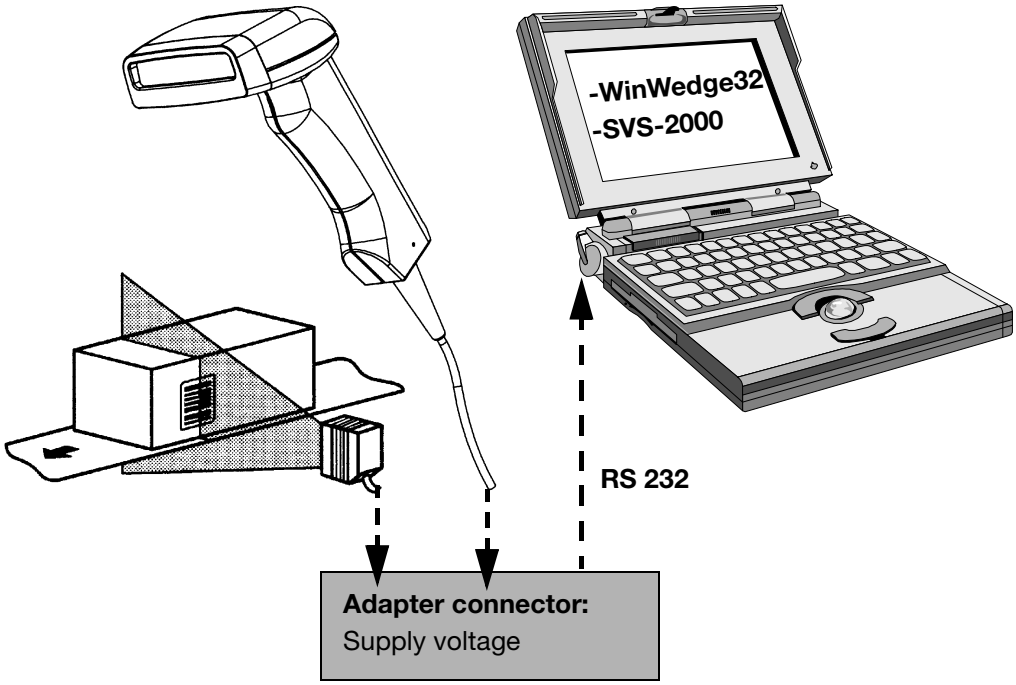
The following description shows how to connect a barcode reader to the SVS-2000 system. One barcode reader can be connected per system. As well as the barcode reader, you need the software package WinWedge32. This package receives the data transmitted from the barcode reader, and passes them on to the SVS-2000, through the DDE interface.
The DDE interface in the SVS-2000 is always available.

The barcode reader can be used to

- start a recipe
- scan 3 different batch labels

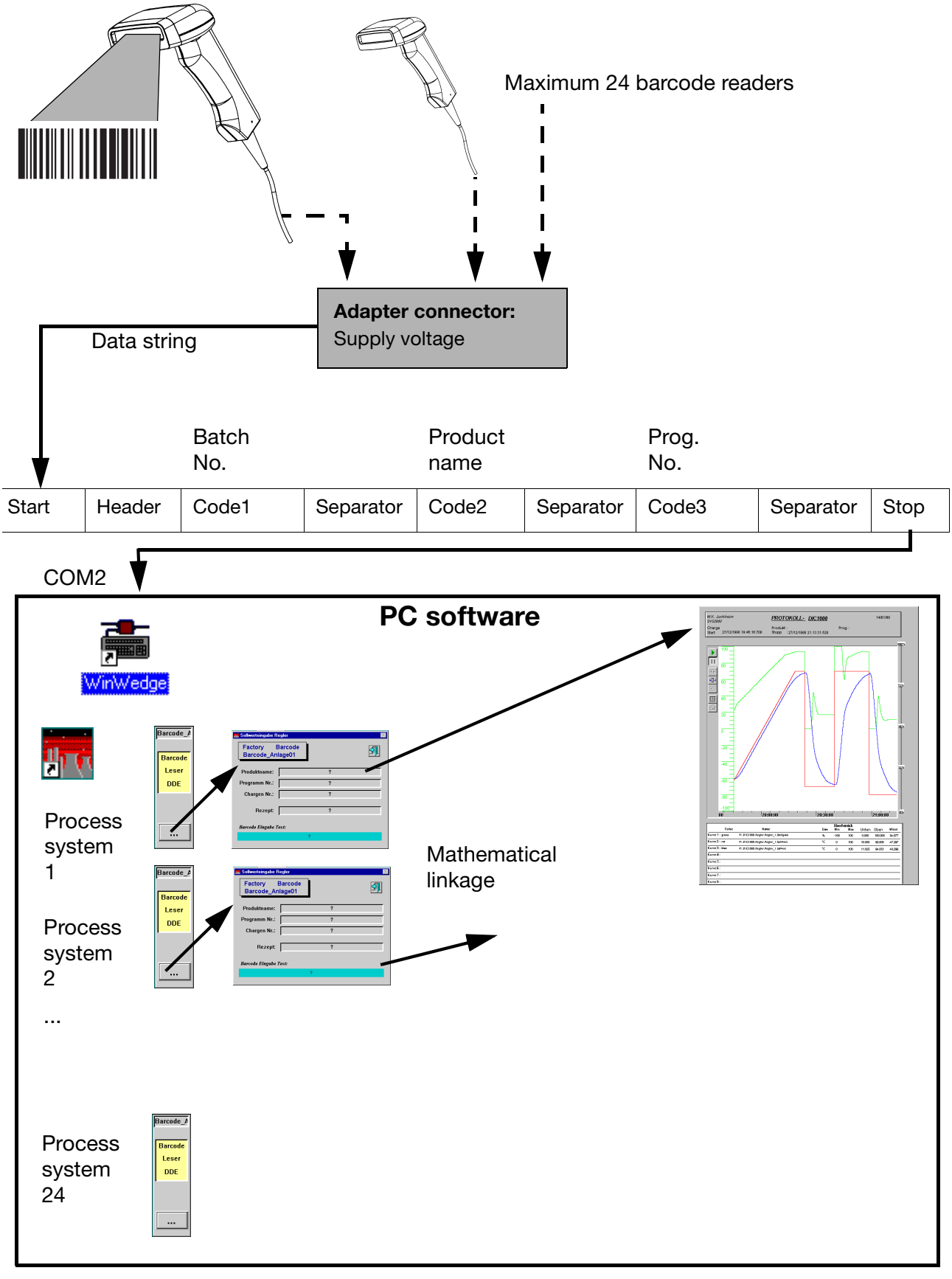
8.1.1 Connection to a free COM interface

The connection to the PC is made through a 9-pole SUB-D connector.
The default setting is COM2.



8 Additional software

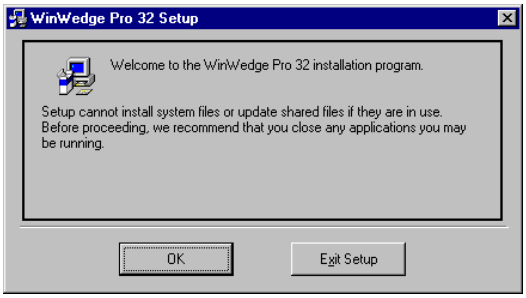
8.1.2 Signal transmission



8.1.3 WinWedge installation

You need to obtain the Winwedge software from JUMO.
Diskettes are provided for theinstallation, and a Hardlock is not required.

* Insert diskette 1
* Run *setup.exe*



* Confirm the recommended installation directory C:\Programme\WinWedge\ or select a different directory.
* Follow the subsequent steps in the installation program.

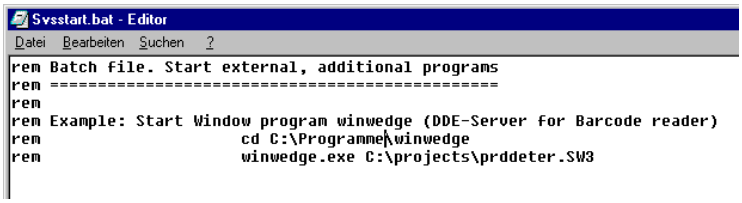
8.1.4 Starting WinWedge together with SVS-2000

When the SVS-2000 is started, the WinWedge32 software can be started at the same time.

Error messages

Winwedge can only be stopped by the user, and not automatically with SVS-2000.
When the SVS-2000 software is restarted, error messages may appear.

* Display (listing) C:\Projects\SVSSTART.bat in an editor
* Check the path that is set for the WinWedge software (next-to-last line)
* Enter the path for Prddeter.sw3 in the last line
  This file contains the configuration data for WinWedge, and is included in the SVS-2000 software
* Activate the last two lines by deleting “rem“



* Run *File* ➔ *Save*

8.1.5 Starting WinWedge together with the operating system

This variation has the advantage that WinWedge is activated once when the PC starts up.
I.e. WinWedge is active, even if the SVS-2000 software has not been started.

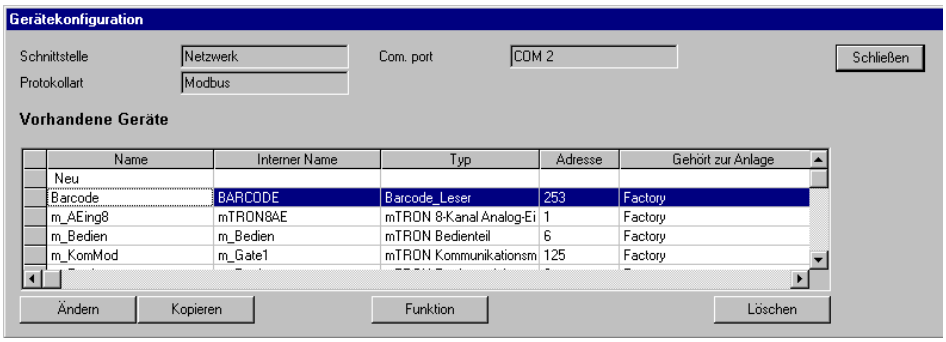
* Enter prddeter.sw3 as a link in the *Autostart* menu

8.1.6 Program stop

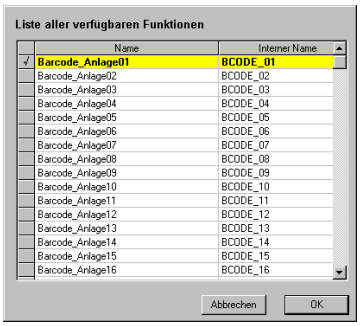
Winwedge can not be stopped automatically when SVS-2000 is ended. It must be stopped manually.

8.1.7 Barcode object configuration

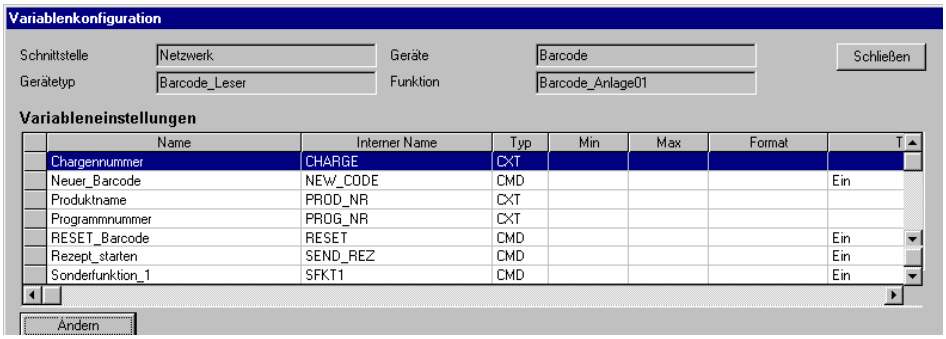
The barcode reader only has to be set up once as a device.



The assignment to the process systems is made via 24 different functions.

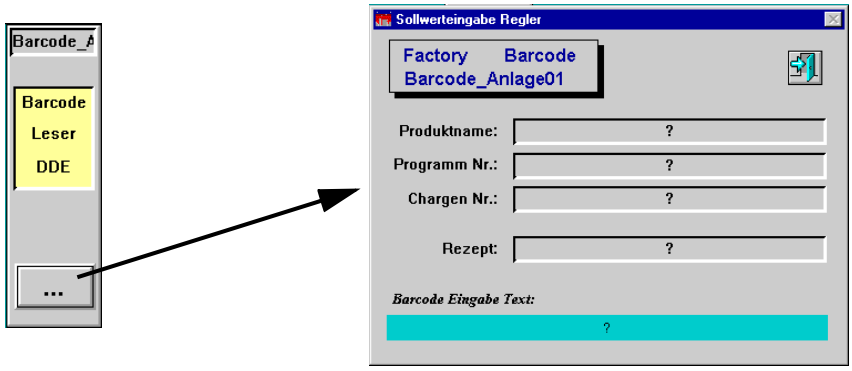


Each function includes several variables.



The 3 text variables for *Program No, Product name* and *Batch No.* represent the data that are scanned in for Codes 1 ... 3.

They appear in the grouped mimic if you click on the *Barcode* function.



Start recipe

The text which is entered as a barcode batch number can be used to start a recipe with the same name.
To achieve this, the variables *New Barcode* and *Start Recipe* must be linked in the mathematical function.

These objects can be used in the grouped mimic diagram.

The data which are read by the barcode reader can be used a batch data in the reports. To do this, the known report settings for the source of the batch data must be set up at the configuration level.

8.1.8 WinWedge32 software package

Supplier/ producer

IMC, Turnacker Str. 62/1, D-70794 Filderstadt, Germany
TAL Technologies, Inc., 2027 Wallace Street, Philadelphia, PA 19130, USA

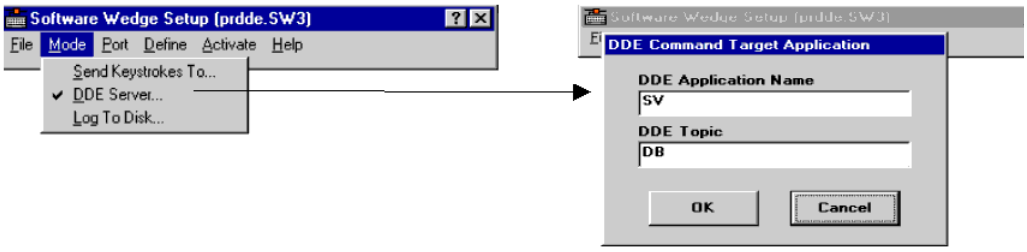
DDE software

COM2 is used as the standard interface port. Since the communication with WinWedge32 is handled through DDE, and COM2 is set as the interface for WinWedge32, it is not necessary to set up an interface in the configuration tool of SVS-2000. If a barcode reader is used, COM2 must be reserved for this purpose. If WinWedge32 is not installed on the PC, then COM2 can be used as a normal interface for Modbus or ASCII protocols.

* Select the device *Barcode reader* at the configuration level
* Assign this device to an available interface (COM port)

Mode

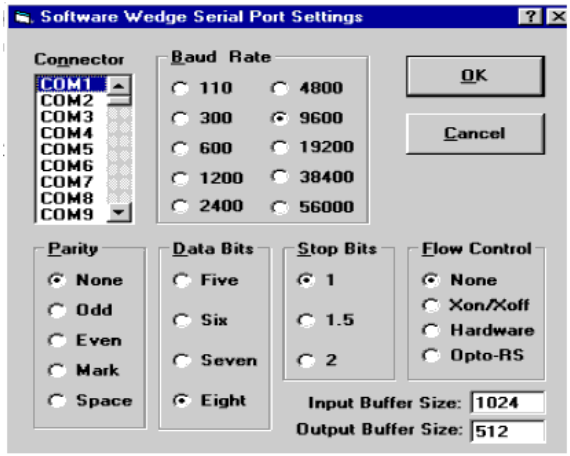
The *DDE Application Name* and *DDE Topic* are set under *Mode*.



Port

Interface settings

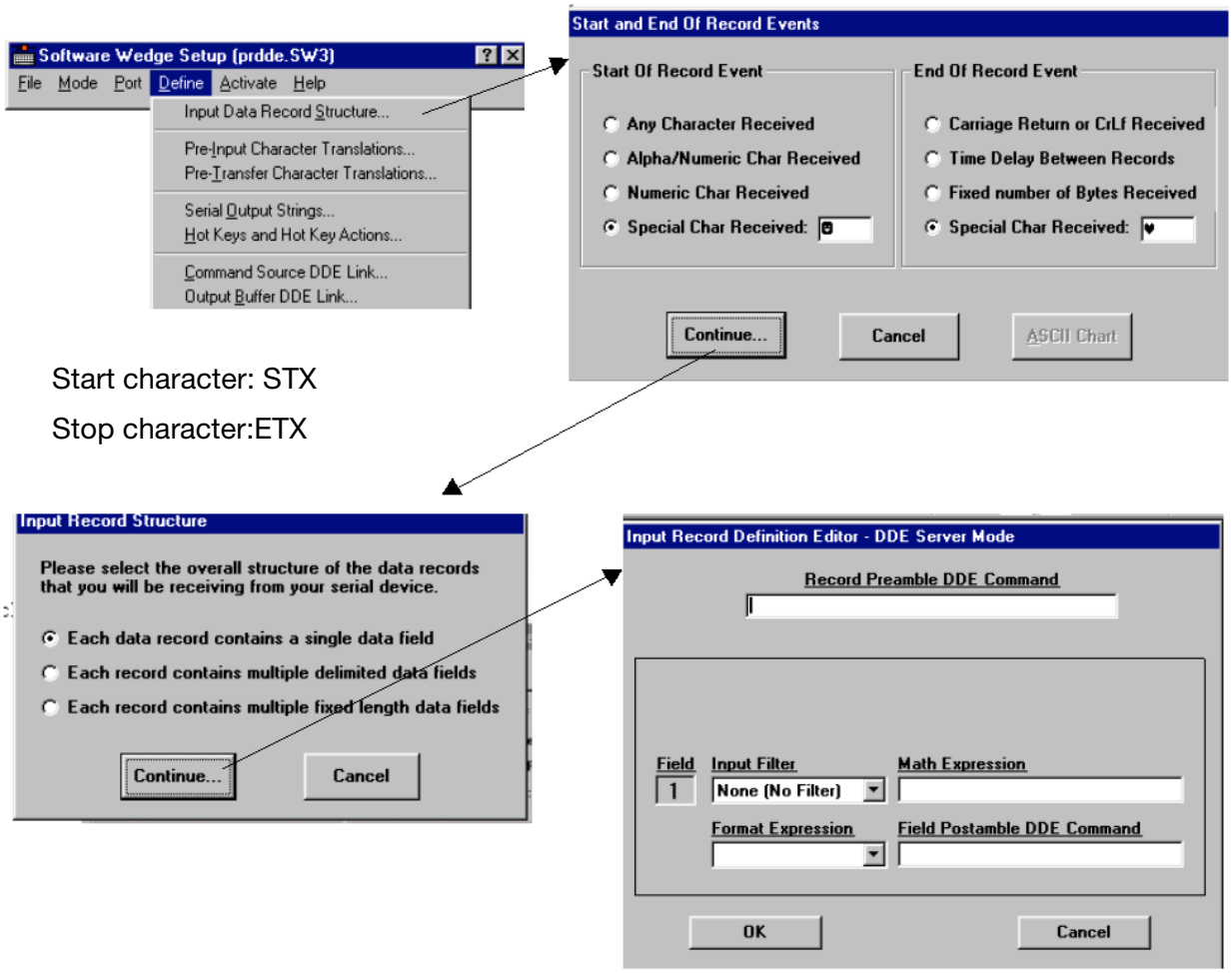
* Set COM2 as the interface port in WinWedge32



8 Additional software

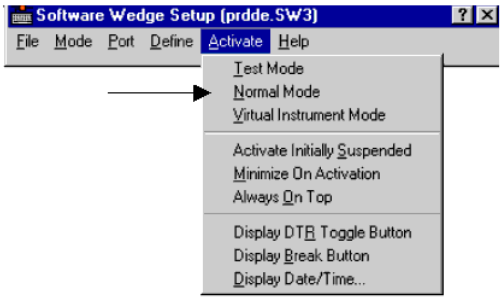
Define setting

Description of the data structure



Activation

The program is activated in *Normal Mode*.
However, it is a good idea to start WinWedge together with SVS-2000 or the operating system.



8.1.9 Data protocol

The data format that is described below is a standard format used by barcode readers. Normally, this format can be set up by a configuration program in the barcode reader. This format is then recognized and evaluated by SVS-2000.

		Batch No.		Product name		Prog. No.		
Start	Header	Code1	Separator	Code2	Separator	Code3	Separator	Stop

Start	STX	Hex 02	
Header	CC	number of barcodes recognized	2-figures [1]
	GN	device number (01 ... 24)	2-figures [2]
Code 1 to 3		code content (barcode data)	
Separator	constant	hex 3B (semicolon)	
	ST	error status	0 = no error > 0 = error a *Code x NOREAD* is inserted for ST = 1,2,5,6,9,A and D
Stop	ETX	hex 03	

Example: data string: _305123456;0678;098765;0

_3	CC= number of barcodes recognized = 3 (leading zeroes are represented by an underscore)	
05	GN = device number (from 01 ... 99)	
123456	Code 1	
;0	Separator	= constant -0 = ST = error status = no error
678	Code 2	
;0	Separator	= constant -0 = ST = error status = no error
98765	Code 3	
;0	Separator	= constant -0 = ST = error status = no error

1. leading zeroes are represented by an underscore, e.g. 03 = _3
The underline can be omitted for single-figure numbers.

2. corresponds to the number of the barcode object

Example: data string: _205123456;0NOREAD;2

2	CC= number of barcodes recognized = 2
05	GN = device number (from 01 ... 99)
123456	Code 1
;0	Separator = constant -0 = ST = error status = no error
NOREAD	Code 2
;2	Separator = constant -2 = ST = error status = error

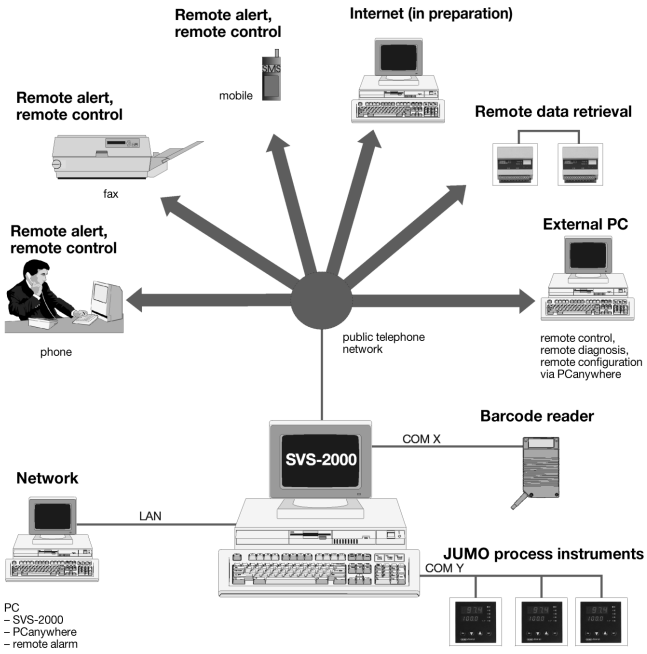
8.2 Remote warning software “Alert”

“Alert” is software that is used to pass on alarms that are generated in SVS-2000 to a network of JUMO devices. This enables monitoring without personnel being present.

8.2.1 Functions

- transmit a verbal message to a fixed or mobile phone
- send a fax message
- transmit SMS messages via the D1, D2 or E-plus networks
- transfer a Win-pop-up within a computer network

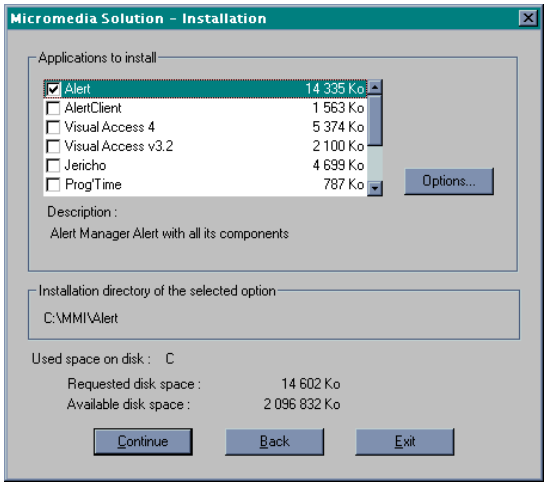
In the other direction, all alarms can be acknowledged from any telephone connection.



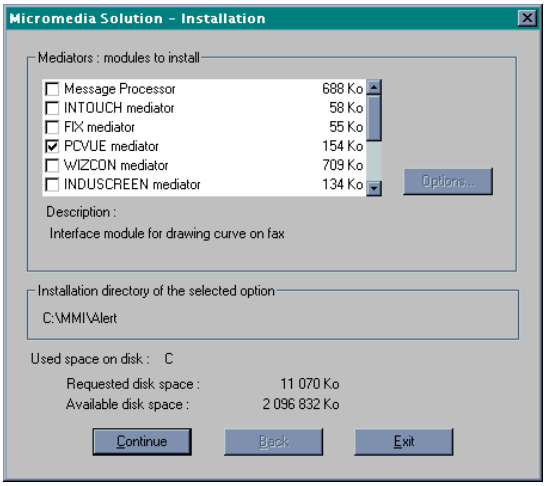
8.2.2 Alert installation

The installation includes all the functions and drivers which are described.

* Insert the SVS-2000 CD in the drive
* Run (CD-ROM drive):\alert\install.exe
* Select the language
* Confirm 32-bit version
* Accept the recommended path, or enter a different one
* Activate (tick) the ALERT software module



* Confirm further messages with *Continue*
* Select PCVUE mediator only, switch all others to inactive

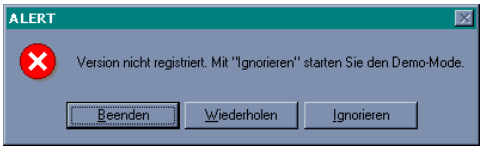


* Confirm further messages with *Continue*

A message appears, to announce that the software has been successfully installed.

8.2.3 Start Alert

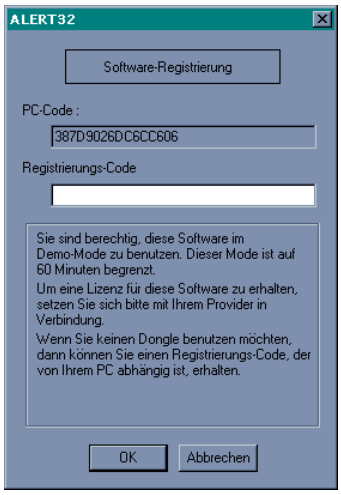
* Run *Start* ➔ *Program* ➔ *Micromedia* ➔ *Alert*



* Click on *Ignore*
* Click on *Register*

A screen appears with a PC code. You must pass this on to JUMO, in order to receive a registration code.

* Send in the registration postcard, completely filled out with the PC code and address (to be found at the start of this documentation).
  It will be returned by JUMO with the registration code entered.
* Or request a number by telephone.

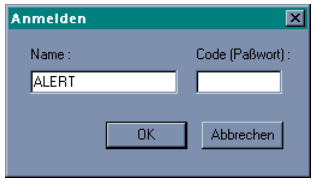


* Enter the release code you received from JUMO.

After ALERT has been started, you (the user) must identify yourself.

* Click on 

The following dialog box appears:



* Enter *ALERT*
* Confirm with OK

8.2.4 Communication interface

* Click on 

* Activate the register card *Interfaces*
* Select the serial modem port, and click on *SETUP*

* Use *New [= Neu]* to add a modem to the list

You can select one from the list of modems that are already installed, or select the serial interface to which a new modem is connected.

* Click on the register card *Drivers*

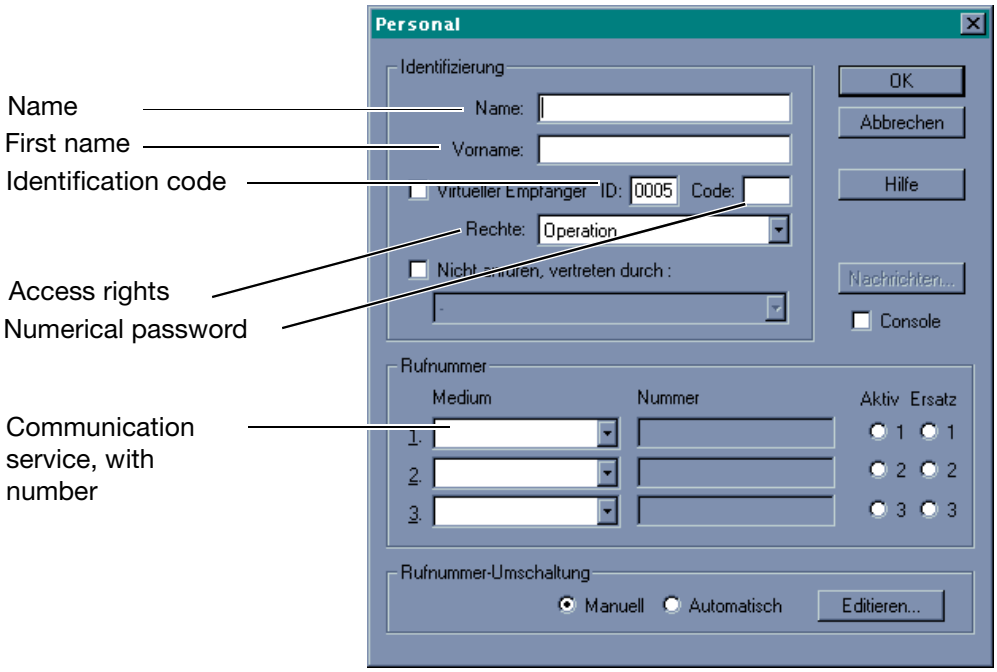
To be able to generate alarm messages, Alert requires the drivers for the communication service that is to be used (D1,D2, Fax ...).

* Select other drivers by using *Add*

8.2.5 Alarm personnel

* Click on 

* Click on *Personnel* ➔ *New* in the register card.

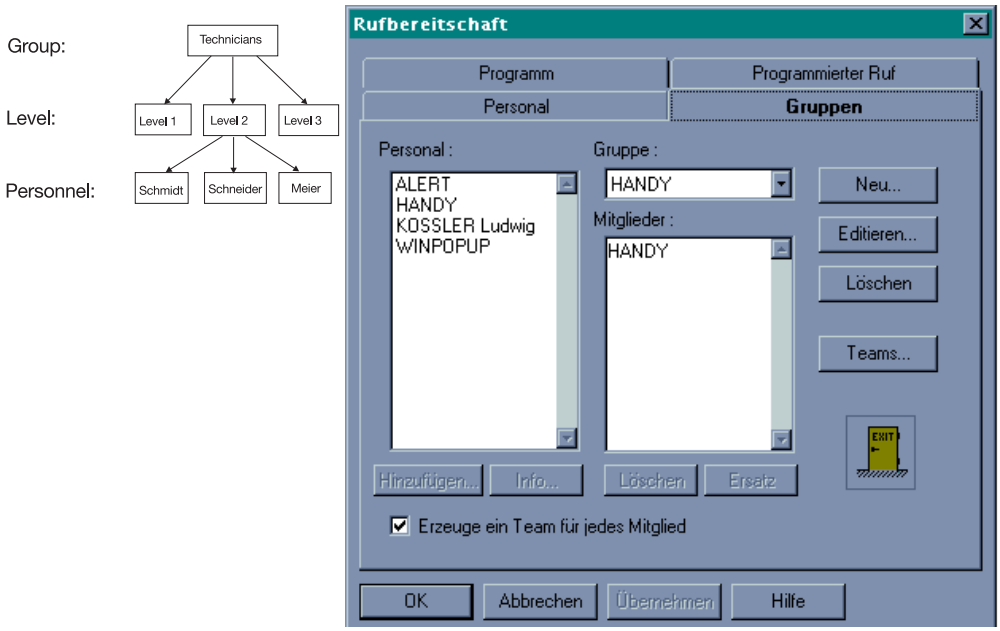


* Repeat this procedure for each person

8.2.6 Groups and teams

Organizational structure

Every user must be assigned to one or more groups. In the standard (default) setting, each member of a group represents an independent team.



8 Additional software

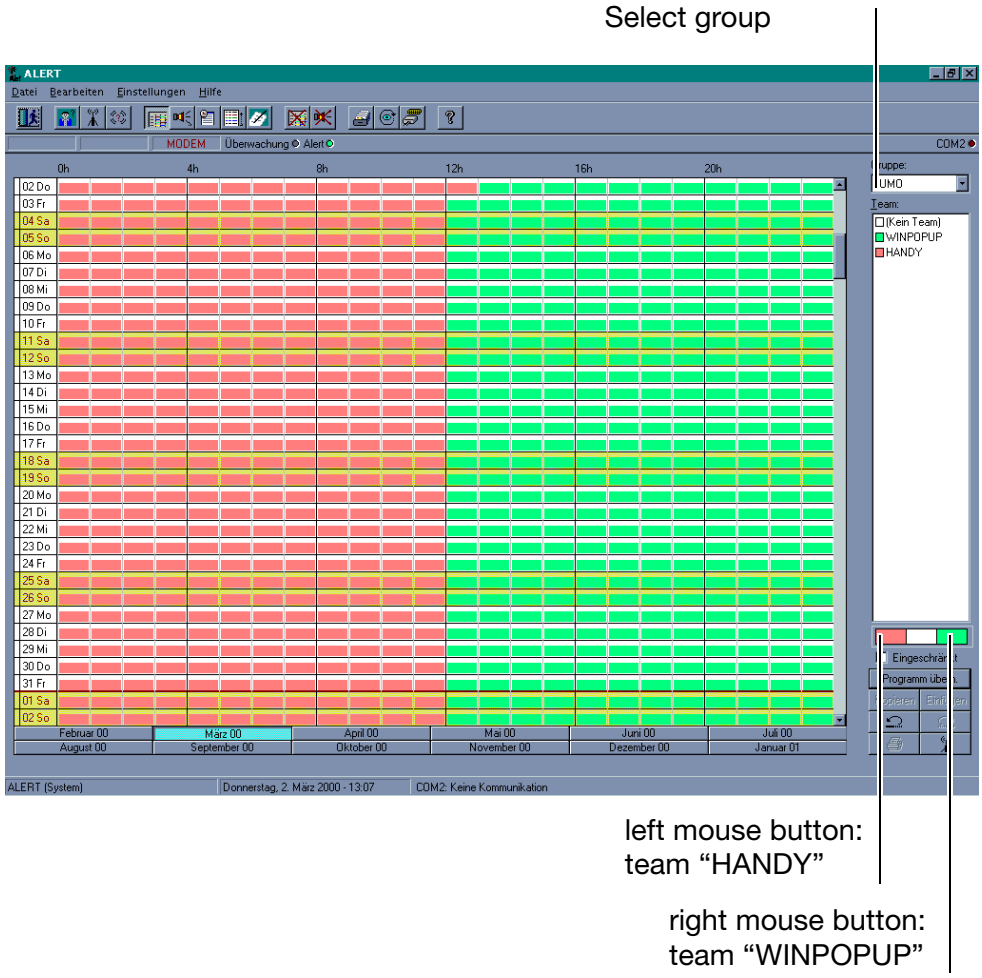
8.2.7 Create availability plan

* Click on 

In the availability plan you can decide which team in a group will be notified of an alarm, depending on the time of day (i.e. who is “on-call”).

Graphical

The screenshot shows the plan for all teams in a group, over a period of 12 months. The availability plan can be entered according to the period within a day or week. It can easily be edited by using the mouse.



Click on the field with the appropriate mouse button, to enter the particular team (the field takes on the team color).

Via program

* Click on 

* Select the register card *PROGRAM*

An on-call plan can be entered for each day, in the form of a program.
This program can be integrated into the alarm plan by using *Program int*.

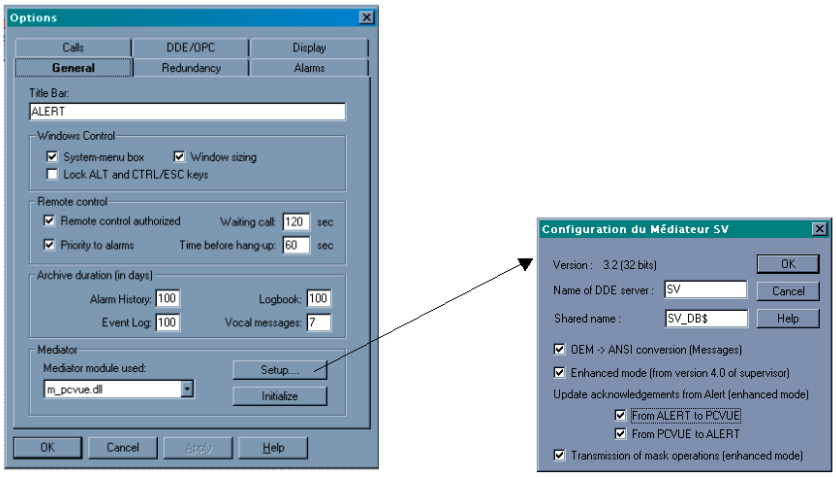
8.2.8 Set up variables

Some settings are necessary to link variables into the configuration of Alert.

* Select the menu *Settings* ➔ *Options*

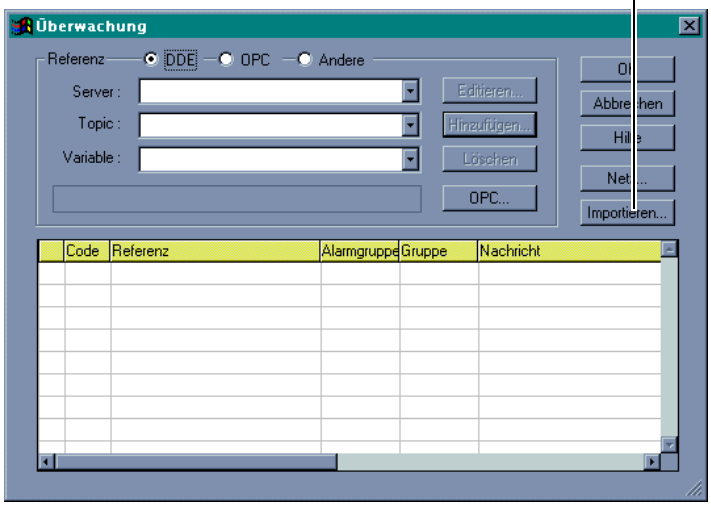
* In the register card *General* set the mediator as m_pcvue.dll

A click on *Setup* produces a new window, where all the selection fields should be activated.

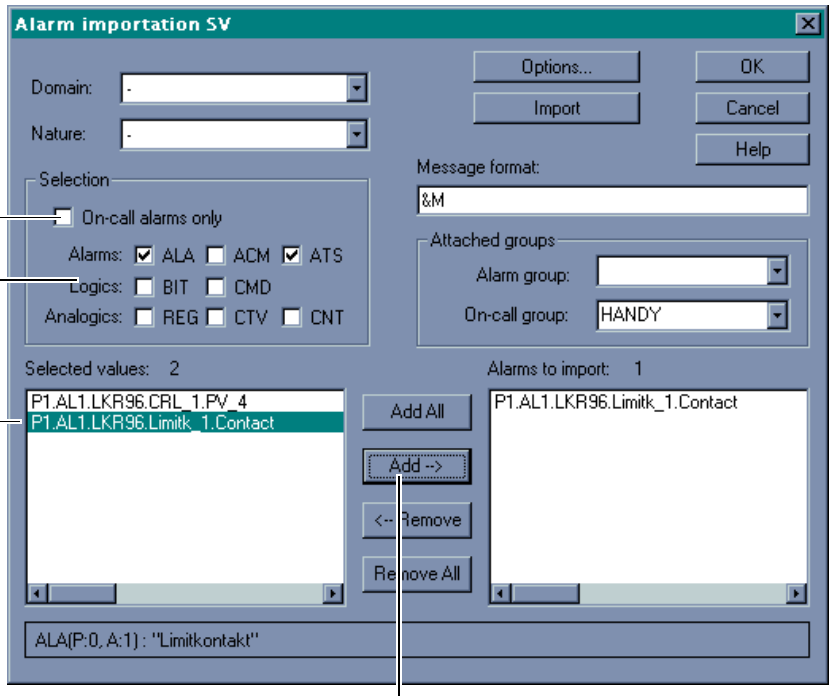


*  enables the setting up of variables

File import



* Click on *Import*
* Import from (drive):\projects\usr\Svswork\c1\varexp.dat



De-activate

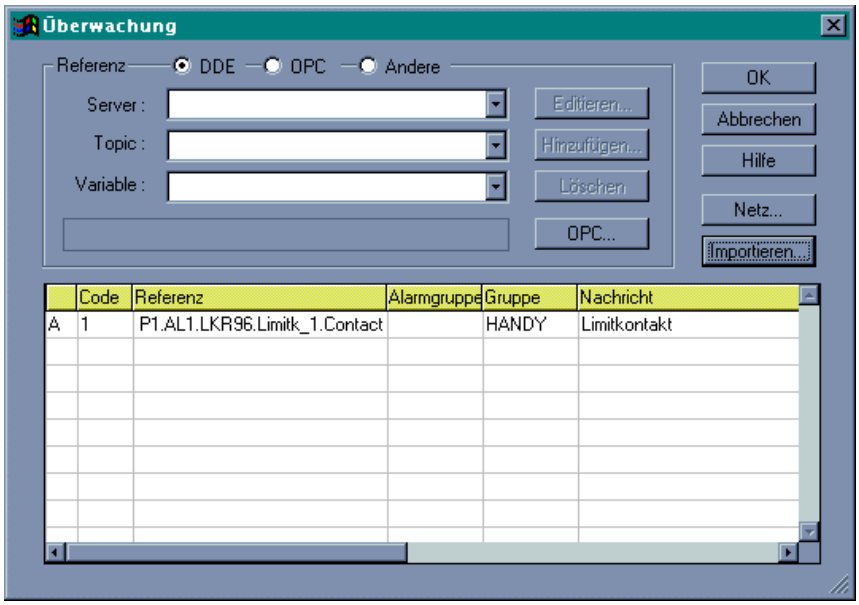
Set alarms ALA and ATS

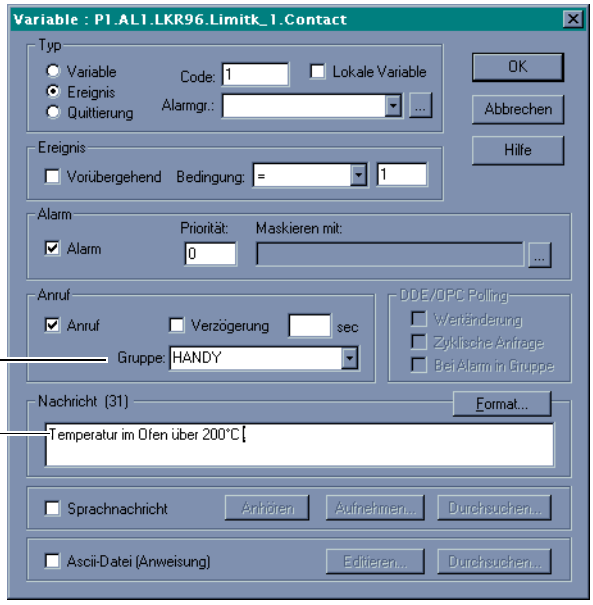
Available variables

Add the selected variables

* De-activate on-call alarms
* Activate the filters ALA and ATS (tick)
* Use *Add* to transfer the selected variables to the window on the right
* Confirm the variables to be monitored with *OK*
* (If necessary) double-click on the variables, to edit them

The variables are added to the list.





Group to be alerted by alarm

Text to be sent

It is absolutely vital to test the proper functioning of the “Alert” software before the system is operated without personal supervision!

At the right of the *Monitoring* text there is a green indicator which shows that the selected variables are being monitored.

8 Additional software

8.3 Remote control of PCs with pcANYWHERE32

pcANYWHERE32 for Windows 9x and Windows NT is a comprehensive communications solution for remote control, data transmission and general communication tasks. It can be operated over a telephone connection, a computer network, or a combination of both.

8.3.1 Functions

- Remote control of a PC from another computer, if pcANYWHERE32 is installed on both computers
- Automatic data transmission and synchronization of folders between two PCs
- Connection to a variety of online services
- Connection to computers in a network, if your PC is being operated as a network node

Host, Remote Your own PC is designated as the remote PC.
The remote-controlled PC is designated as the PC.

8.3.2 Installation of the remote PC

* Start Windows 9x or NT
* Close all applications

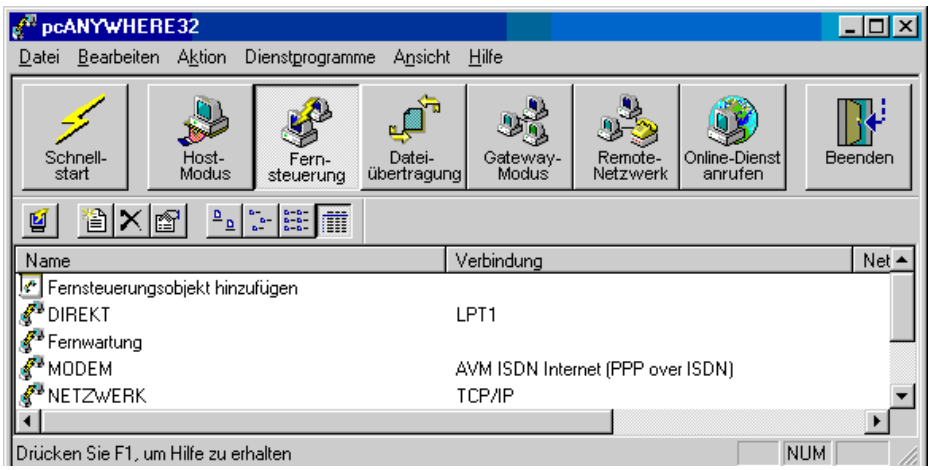
* Place the pcANYWHERE32 CD in the CDROM drive

* Click on *Install Software* or run (drive):\ cdinst.exe

8.3.3 Program start

* In the start menu, click on *Programs* ➔ *pcANYWHERE32* ➔ *pcANYWHERE*

The main window contains 8 buttons, 6 of which represent the principal functions of pcANYWHERE32.



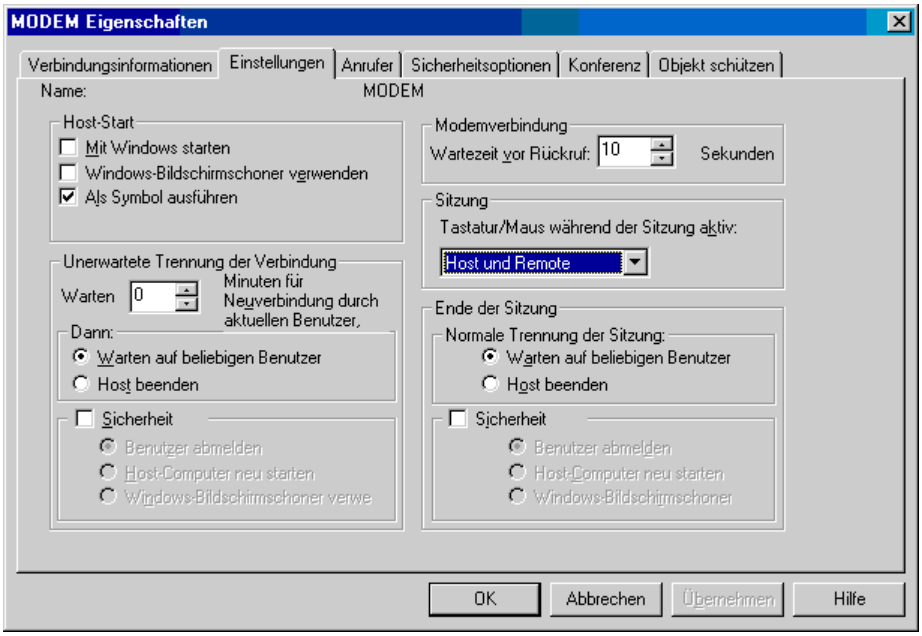
Fast start This contains executable files for each of the functions in the button bar. These files request information which is required when you click on one of the buttons.

Host mode This is the operating mode where your PC is set up as a host PC, so that other PCs have access to it.
This makes is possible to operate the active visualization software SVS-2000 from a remote PC.

Remote control In this mode, your PC controls a host PC in a remote location.

8.3.4 Define connection objects

Before you can start a remote-control session with one or more remote PCs, a host connection object must be defined, which contains information about the connecting device and security.



8.3.5 Starting a session

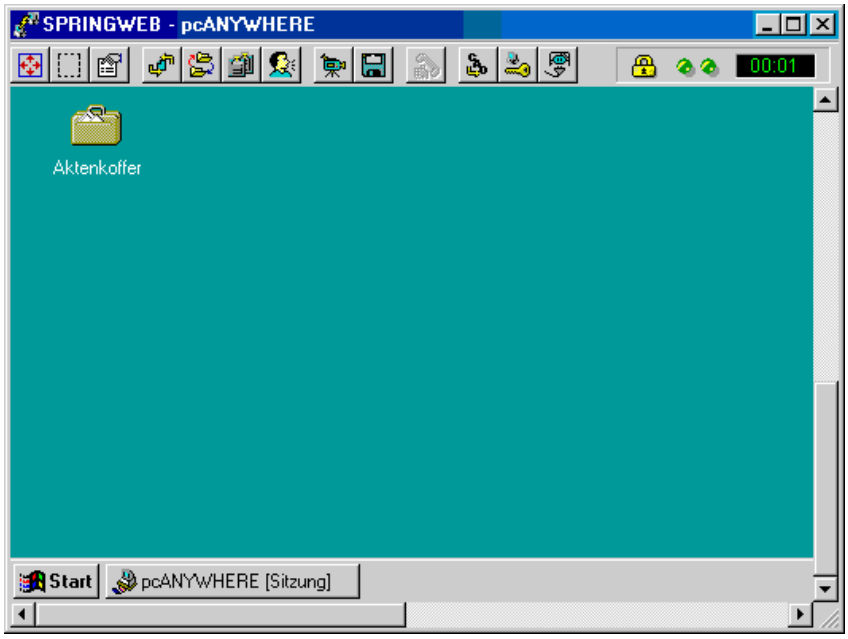
Making a connection pcANYWHERE32 uses the register cards *Connection information* and *Automatic Procedure t*o make the connection through a telephone or computer network.
The screen of the host PC is mirrored to the remote PC, so that it looks as if you were sitting in front of it. You have access to all the applications and files on the host PC.

Start session Remote-control sessions are normally initiated by a remote PC.

* Click on Remote Control
* Double-click on a remote-control object, for instance one which uses a modem as the connecting device, or click on a connection object with the right mouse button, and select *Connect*.

The call is made, and accepted by the waiting host PC.
The screen contents of the host PC are shown in a pcANYWHERE32 session window, and the remote-control session starts.

Session window



The session window contains a menu bar, the session time in the top portion of the window, and scroll bars on the right and bottom edges.

Please note that a PC which is operating over the telephone network may create a **security risk**, if unauthorized persons obtain passwords and security information!

Special information, such as on suitable **data coding** can be found in the documentation that is supplied with pcANYWHERE32.