Hoval DigiNet

Service manual

7010001.003 V2.4.1

Overview of subjects

Key to symbols

Keyboard operation

Wait

Diskette

Mouse operation

Single mouse click with left button

Single mouse click with right button

Double mouse click with left button

Double mouse click with right button

Description

Application

Information

Attention

Note
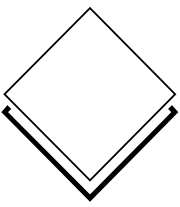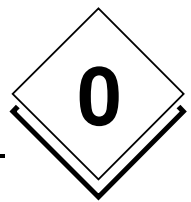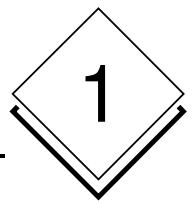
1 Introduction

1.1 DigiNet DN5 system components

This manual describes the installation, commissioning and operation of the various components of the DigiNet control system for the Hoval Indoor Air-Conditioning System. Depending on the type of device and the desired operating interface, the following components may be used:-

Type	Description	Product	Documentation		
			Installation	**Configuration**	**Operation**
DigiUnit	DDC/PLC controller (automation station), built into the unit switching box, for fresh-air equipment(RoofVent, MH) (cascade controller and TempTronic)	-EYR209F921	-	2.4.4	-
DigiEco	DDC/PLC controller (automation station), built into the recirculated air device or WelRad (TempTronic only)	-EYE202F001	-	2.4.5	-
DigiZone	Control built into the zone cabinet (automation station). Interface for outdoor and room temperature sensors, control inputs, demand signals and 'DigiEasy' easy control device.	-EYE202F001	-	2.4.3	-
DigiPlus	Additional DDC/PLC controller (automation station), built into the zone cabinet, for options such as humidity control, frequency converter or other special functions	-EYR203F001	-		-

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Type	Description	Product	Documentation		
			Installation	**Configuration**	**Operation**
DigiMaster	Uniform user panel (Touch Panel) for the entire plant, for instructed users.	- EYT250F021	-	3.1	3.2
DigiEasy	Additional device for restricted operation, for untrained users. Solely to operate one control zone.	- EYB270F101	-	2.4.3	
DigiCom	Visualisation software (novaPro32) for a standardised network environment; comprises software package and novaNet router for connection to a PC via COM interface.	- YZP401F901 - EYZ291F001	2.1	2.5	2.4
DigiWeb	Connection to the Internet comprising web server (novaWeb) and router.	- EYW300F001 - EYZ291F001	-	5.1	5.2
DigiBac	Integration into management level with a BACnet communication card via BACnet / IP based on Ethernet.	- EYK230F040			-
DigiService	Service-Terminal to display parameters of a DigiUnit locally	- EYT240F001			6

1.2 Typical system topology

Example with 2 control zones and 3 DigiUnit and 3 DigiEco devices in each case:
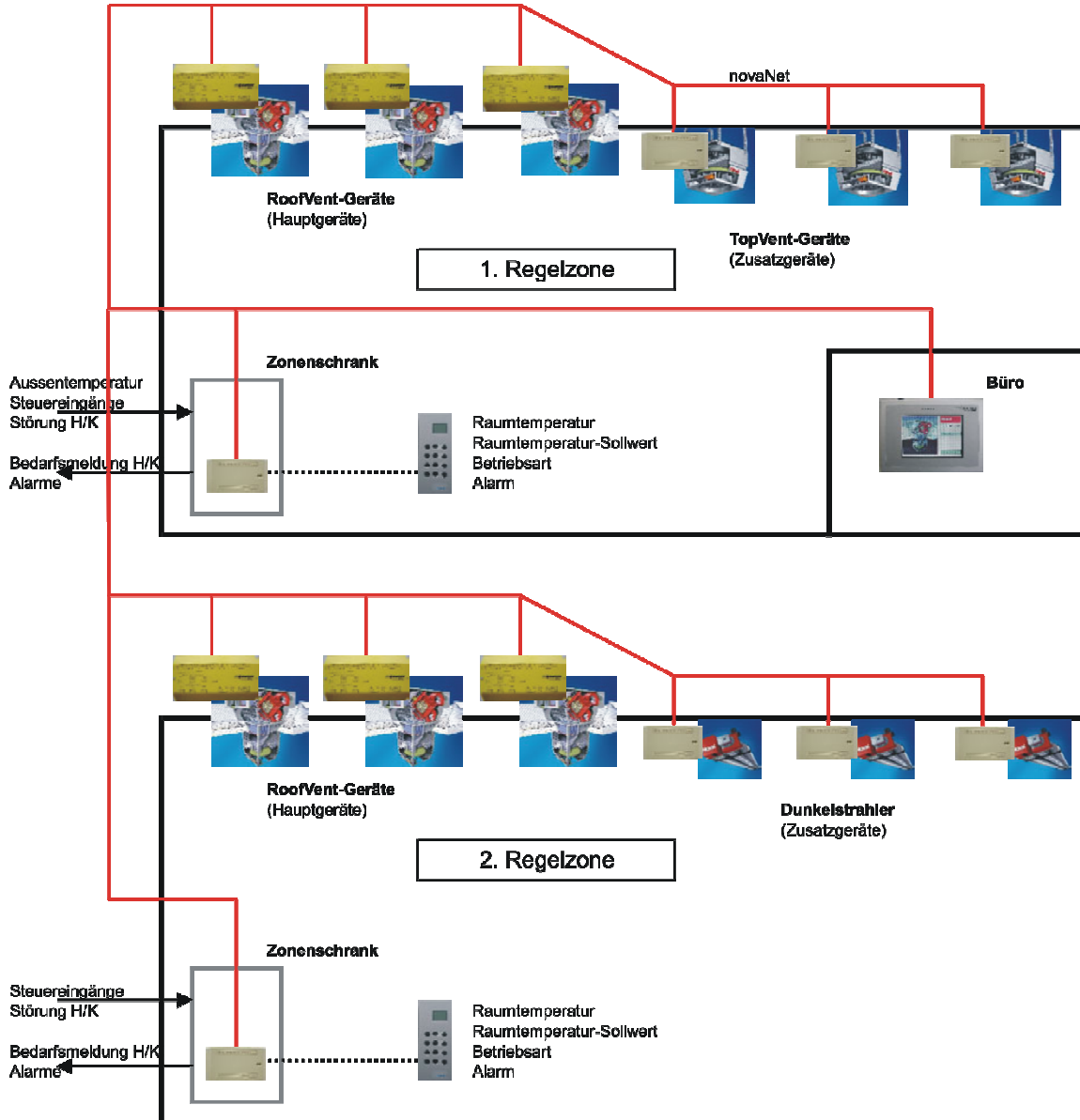
Illustration1-1: Typical topology

2

2 DigiCom

2.1 Installation

2.1.1 PC configuration

HW requirements:

PC:
Processor:	Intel Pentium II 400 MHz
Working memory:	256 MB
Hard disk:	min. 1.8 Gbyte (9 GB recommended depending on size of plant)
Diskette drive:	3½ ' 1.44 MByte (for the installation of the licence)
CD drive:	for the installation
Ports:	1 mouse, 1 serial, 1 ISA bus (optional for EYS290)
	1 printer
	1 network connection

SW requirements:

Windows NT 4 SP6a / 2000 / XP
Acrobat Reader 4.0 or higher

2.1.2 novaNet router EYZ 291

The **EYZ 291 F001** novaNet router is used to connect the EY3600 novaNet field bus to a PC via the RS-232 serial interface. In this case, the connection is either made directly to the PC interface, or via a dialling modem or another switched or unswitched RS232-compatible pair of devices (ISDN adapter, line driver, converter, fibre optic, leased-line modem, radio modem etc.).
The novaNet router contains 1MB of buffer memory in order to decouple the time behaviour of the novaNet and the RS232 interface. The functionality for the dialling operation includes dialling from above (remote access) and also dialling from below (remote monitoring, i.e. automatic upward signalling of events that merit reporting).
The baud rate for data transmission is set with the help of 4 DIL switches on the rear of the device.
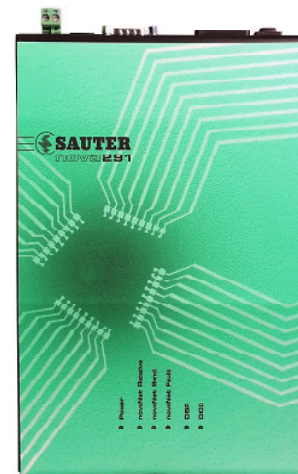
Illustration2-1: novaNet router, EYZ 291

2.1.3 Connection with novaNet
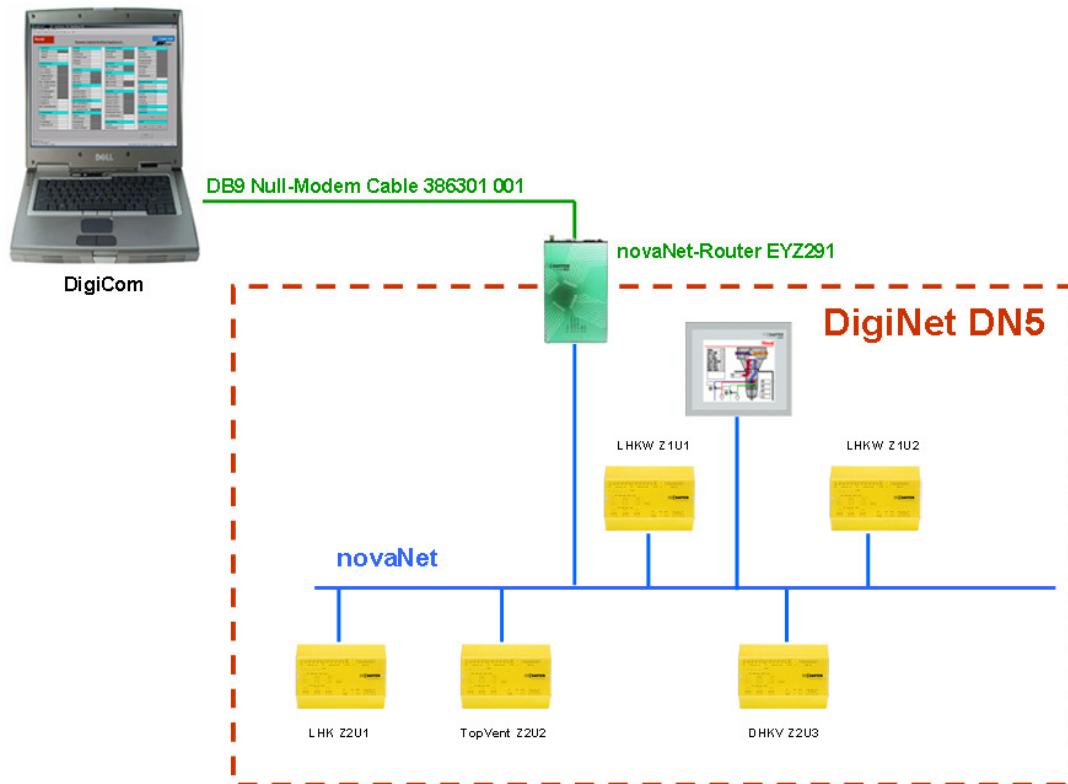
Illustration2-2: Connection with novaNet

2.1.3.1 RS232 connection with novaNet Router 291

The novaNet Router 291 communication device must be set for a transmission speed of 38400 bits/s (only switch 3 to ON).

The COM 1 port of the DigiCom PC is connected to the COM port of the novaNet Router 291via a standard cable of type DB9, zero modem cable (article number 386301 001).

2.1.3.2 Connecting the novaNet Router 291 to novaNet

The connection to the novaNet devices is made either from the RJ11 connection or from terminals a and b of novaNet router EYZ291, according to choice.

Attention:
If connections a and b are transposed by mistake, communication on novaNet will collapse as a result.
A correct connection is shown by the flashing 'novaNet Receive' LED.

Note:
If the 'novaNet Fault' LED on novaNet Router EYZ291 lights up, there is a short to earth in the novaNet network.

2.1.4 Software installation
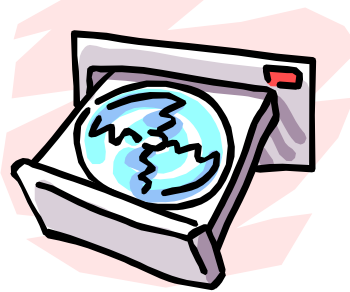
2.1.4.1   The DigiCom CD-ROM

DigiCom YZP 401 F901 is the commissioning tool based on the EY3600 novaPro32 visualisation software, which allows simple parameterisation and commissioning of one or more EY3600 automation stations in connection with the **Hoval DigiNet DN5** system technology.
In addition to the EY3600 novaPro32 standard visualisation, the following functionalities are available:

- installation routine for FBD_nP32 and the DN5 universal project dataset with in-tegrated licensing help
- integrated download tool, enabling automatic loading of data records into the automation stations with no need for programming knowledge (CASE FBD)
- specific commissioning schematics allow simple adaptation of the configuration parameters to device- and project-specific requirements.

DigiCom is supplied together with the DN5 universal project dataset in three languages (d/f/e) on CD-ROM.

DigiCom is supplied on a CD-ROM without copy protection. You obtain the right to use DigiCom in the form of a separate licence diskette.

Place CD-ROM **YZP 401 F901** in your drive. After a few seconds, the start menu of the CD will open (see Illustration2-3). If the CD does not start automatically, start the Set-upHoval.exe programme from Windows Explorer.

Illustration2-3 Start menu of the EY3600 CD-ROM

Select the language you want

Information:

Your choice of language sets the language for these components:

- installation language
- language of the programmes to be installed
- language for the DigiCom commissioning schematics

If one of the listed components is already installed on the PC, it is flagged 'OK' and this component is not selected for the installation. If you want to overwrite the component that is already installed, you can set your choice manually.

Attention:

Please note these points before you start the installation on your PC:

- Close all Windows programmes on your PC.
- When installing in Microsoft Windows NT, 2000 and XP, you must be logged on as a user in the Administrator group.

Select the language you want and follow the instructions in the installation programme.

2.1.4.1.1 Installing the licence

1. You are asked to insert the licence diskette.

Illustration2-4

Attention:
Make certain that you remove the write protection on the diskette first.

2. Confirm the licence path that is proposed.
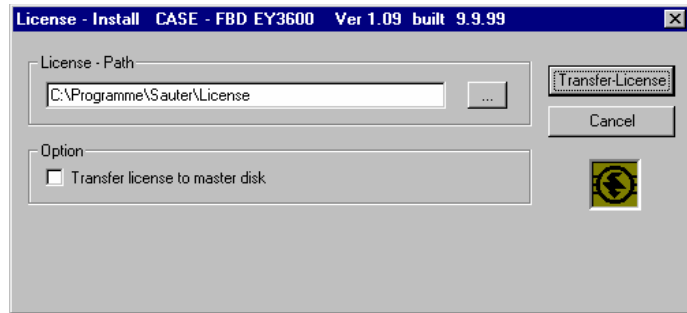
Illustration2-5: Installation programme for the user license

3. This is how you are shown that the licence installation was successful:
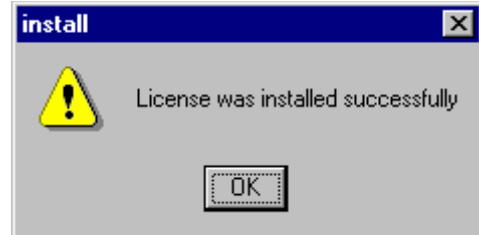
Illustration2-6

Attention:
The licence can only be deinstalled later on with the original diskette from which it was installed for the first time. Keep the licence diskette carefully for this reason.

2.1.4.1.2 Installing FBD novaPro32

1. Start the installation of the programme in this window.
   Press the 'Next>' button.
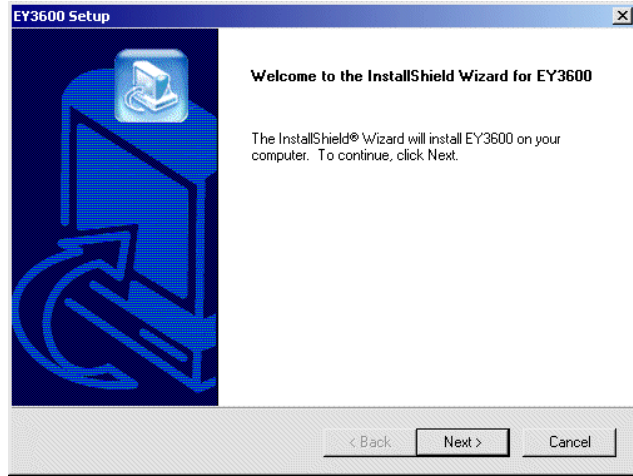
Illustration2-7

2. Confirm the proposed installation directory.
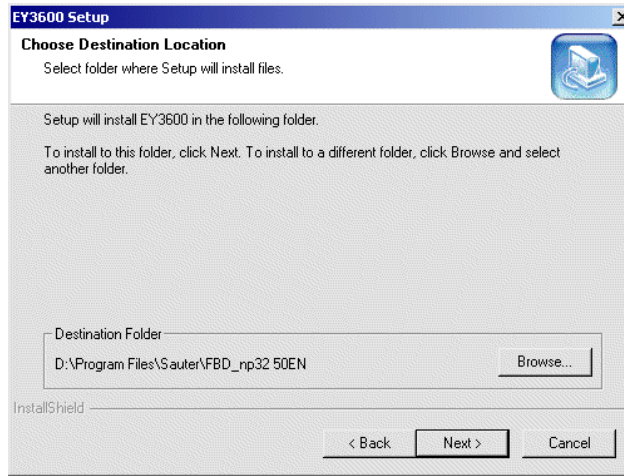
Illustration2-8

3. Select the FBD option and novaPro32.
   Press the 'Next>' button.
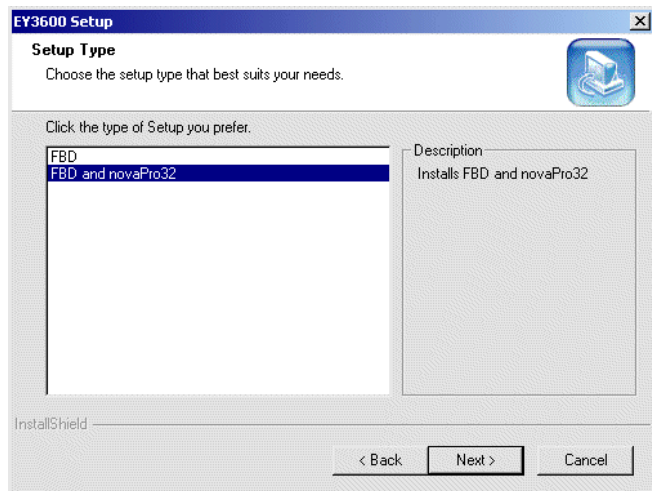
Illustration2-9

4. The selected range is shown in a window.
   Press the 'Next>' button.
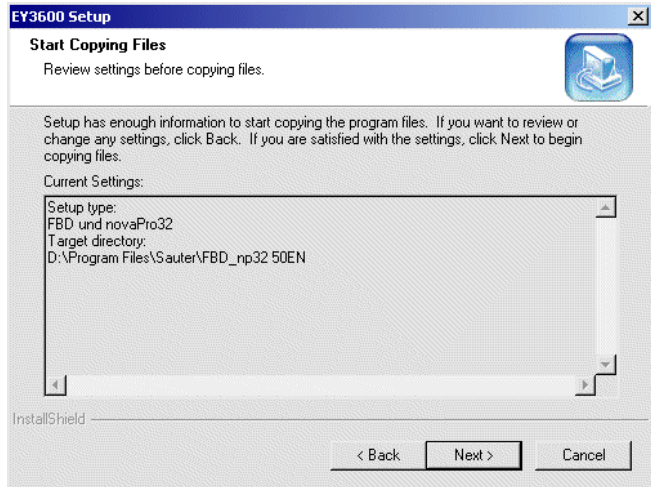
Illustration2-10

The progress of the installation is depicted by this bar. On reaching the 100% mark, the window closes automatically.
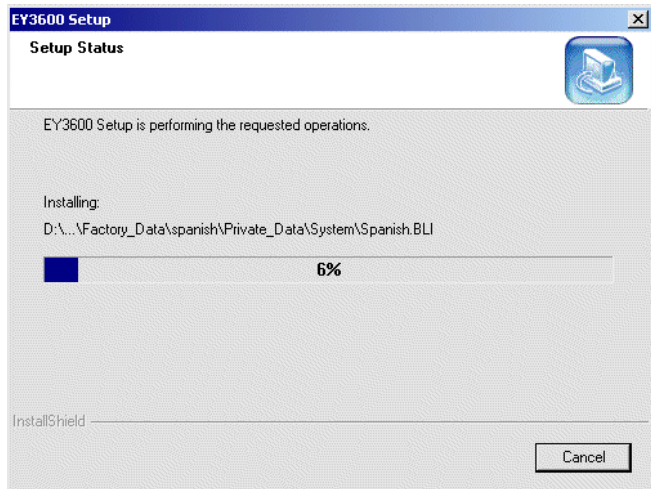
Illustration2-11

6. Press OK to acknowledge the message opposite.
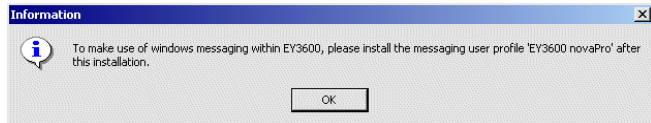
Illustration2-12 Installation programme message

You can set the language for the 'List and Label' programme in this window. This application organises the templates and the printers.

7. Confirm your choice by pressing 'Next>'.
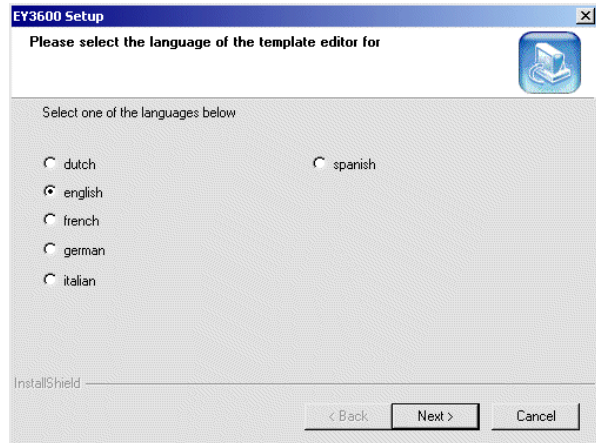
Illustration2-13

This window confirms the end of the installation of the novaPro32 programme.
8. Press the 'Finish' button to exit from the installation.
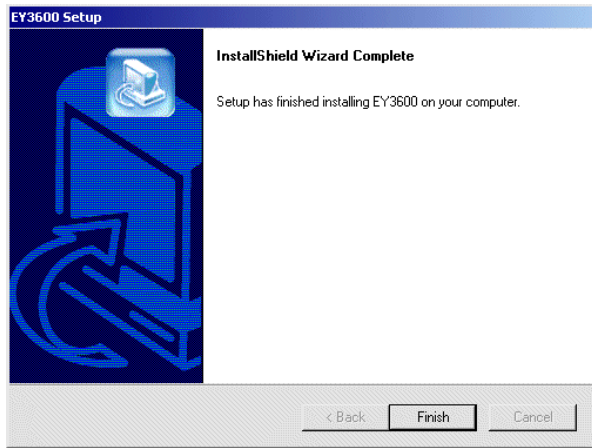
Illustration2-14

2.1.4.1.3   Installing an update for FBD novaPro32

Press the 'Next>' button

Illustration2-15

2.1.4.1.4   Installing further components

No more operating interventions are needed for the further components ('AS Download Tool', 'Data', 'Registry Entries', 'HDB_Entry').
Finally, the 'Start' link is created on the desktop.

Start

2.1.4.2   Deinstalling the licence

Attention:
Under no circumstances must the licence be deleted from the hard disk. Deleting the licence files will destroy the licence irrevocably. For deinstallation, use the original licence diskette from which the licence was originally installed on the PC.

To deinstall, proceed as follows:-

1)   Insert the licence diskette in your diskette drive (A).
2)   Start the 'install.exe' programme from the diskette.

3)   Under 'Licence Path', select the path for the installed licence (e.g. C:\Programmes\Sauter\Ey3600\Licence\)

4)   Select the 'Transfer licence to master disk' option.
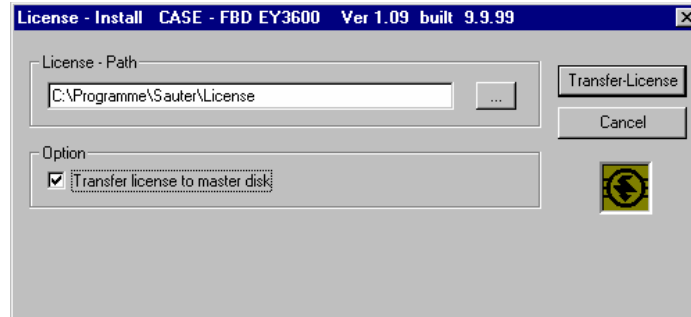
Illustration2-16: Deinstallation of the user license

5) To start the deinstallation, click on the 'Transfer-Licence' command button.

6) You will be shown that the deinstallation was successful.

2.2 Starting and shutting down DigiCom

2.2.1 Start

Start **DigiCom** by double-clicking on the icon that has been specially created for your project. All the necessary components will be loaded automatically.

Illustration2-17: DigiCom start icon

2.2.2 Close / shut down

You can use the context menu (right-hand mouse button) for the tab as a convenient way of closing opened documents (windows) (see Illustration2-18).
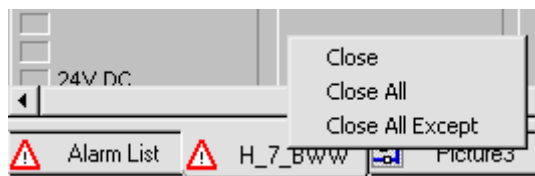
Illustration2-18: context menu for novaPro32 document tabs

Shut the programme down with the File/Shut down menu.

2.3 User login and logout

2.3.1 Login

- To show the input mask for 'user name' and 'password', click on the key in the icon bar or use the 'File' menu:
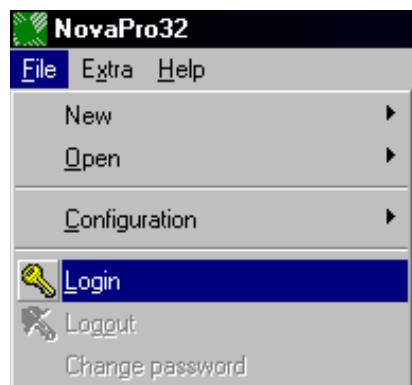
Illustration2-19: Login

- In the next input box, enter your user name and your password, and confirm your entries with 'OK'.
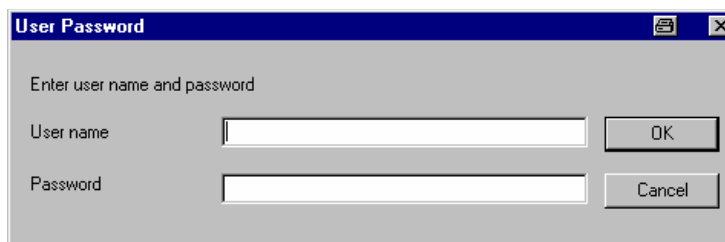
Illustration2-20: Entering your user name and password

2.3.2 Logout

Before leaving your workplace, you must log out from your workstation. This bars all operating functions, as an effective way of preventing incorrect manipulations by unauthorised people.

Click on the icon in the icon bar, or use the 'File' menu to log out if you are already logged in.

All open windows (pictures, alarm lists, etc.) will be closed and **novaPro32** remains barred for manipulations until a user logs in again.
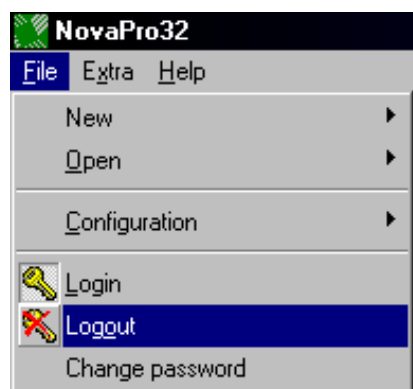
Illustration2-21: Logout

2.3.3 Change password

Users can independently change the password which the System Administrator assigns them for a more familiar one.

To do this, go to the 'File' menu and select the 'Change password' function:

Enter your new password, and confirm your entry in the 'Confirm password' box.

The password you enter is masked.

Change password

Change password for EY3600 novaPro

New password: [   ]   [OK]

Confirm password: [   ]   [Cancel]

Illustration2-22: Change password

2.4 Commissioning the DigiNet devices with DigiCom

2.4.1 System overview

After starting the system and setting up the connections, you are shown the system overview:
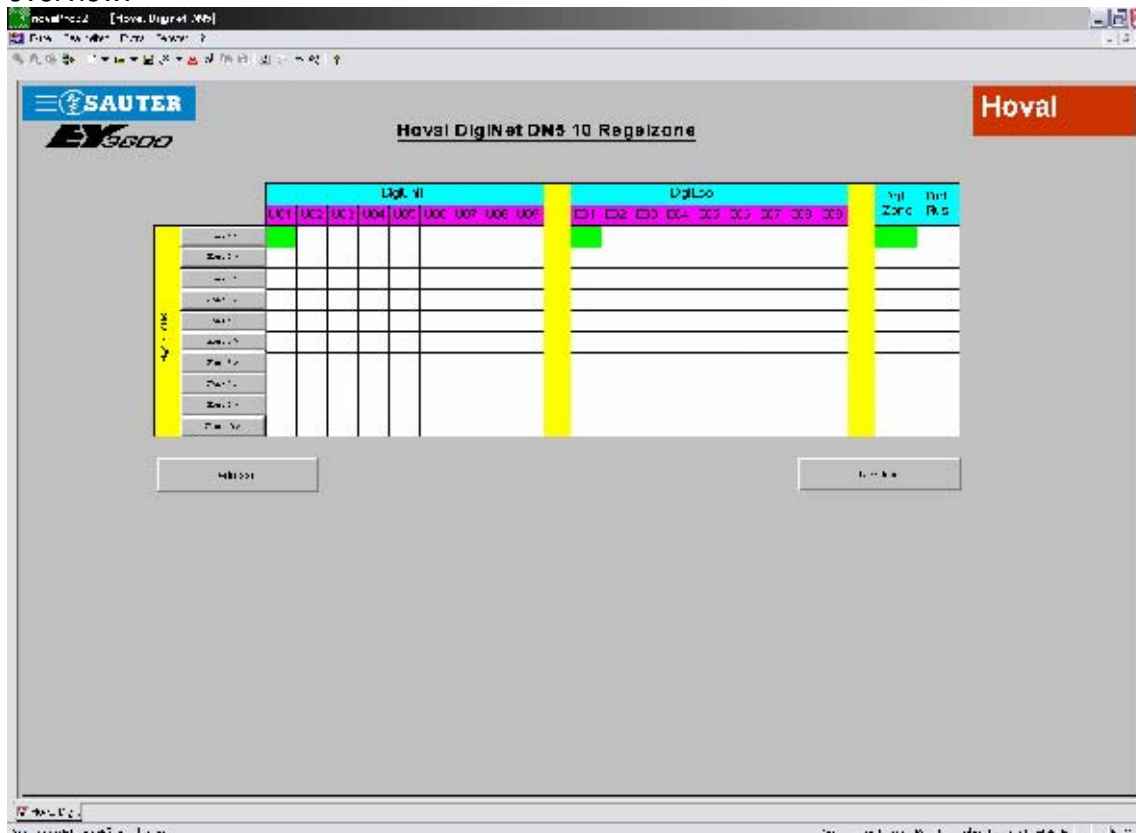
Illustration2-23: System overview

The system overview shows all the bus participants that are present in green. Assignment to a control zone and device category is determined by the coding of the DIP switches on the control device.

It can take up to 6 minutes to scan the whole network.

The required coding is shown in the table in Annexe 9.1 . You can also call this up via the 'Address' button.

Assignment to a control zone can be changed on the control device by recoding as appropriate when necessary.

2.4.2 Downloading data from DigiZone / DigiUnit / DigiEco / DigiPlus control devices

Press the 'Download' button to call up the Download window.
Illustration2-24: Download window

Enable the relevant checkboxes for the zones that are present. You can use the 'Check all' or 'Uncheck all' buttons to select or deselect all the zones.
If at least one zone is selected, the Download buttons are enabled.

For first-time operation, select the 'Download with init' button.

Attention:
The 'Download with init' function initialises all the control devices and sets the default parameters.

Information:
If the control devices have already been parameterised and you only want to adapt the zone assignment, use the 'Download without init' function.

Illustration2-25: 'Stop download'

If the download is active, you can stop it with the 'Stop download' button if necessary.

If a download is stopped, the current zone is completed first.

The bar graphic shows the progress of the download.

After completion of the download, the result is shown in the 'Log reports' pop-up.
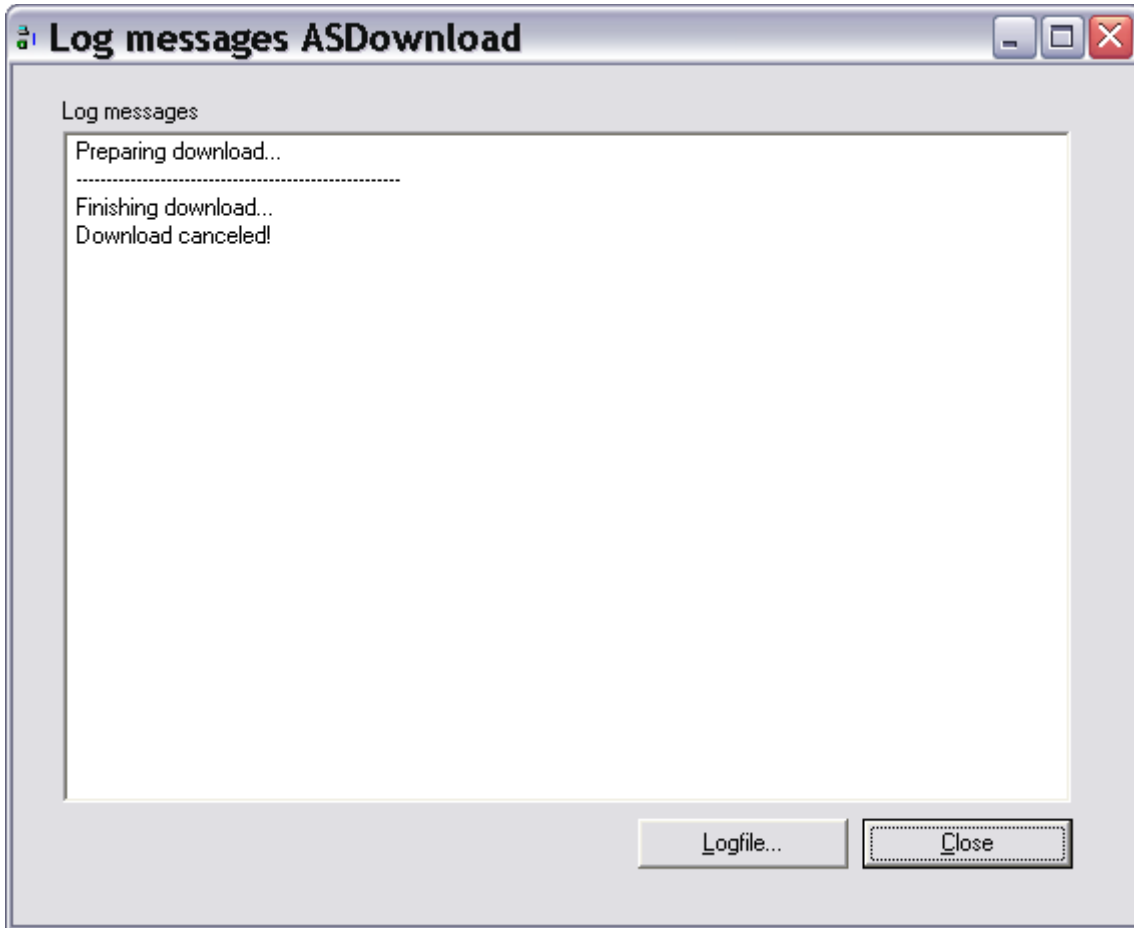
Illustration2-26: Log reports

2.4.3 DigiZone control

Press the 'Zone (1…n)' button in the System overview screen to call up the zone schematic:
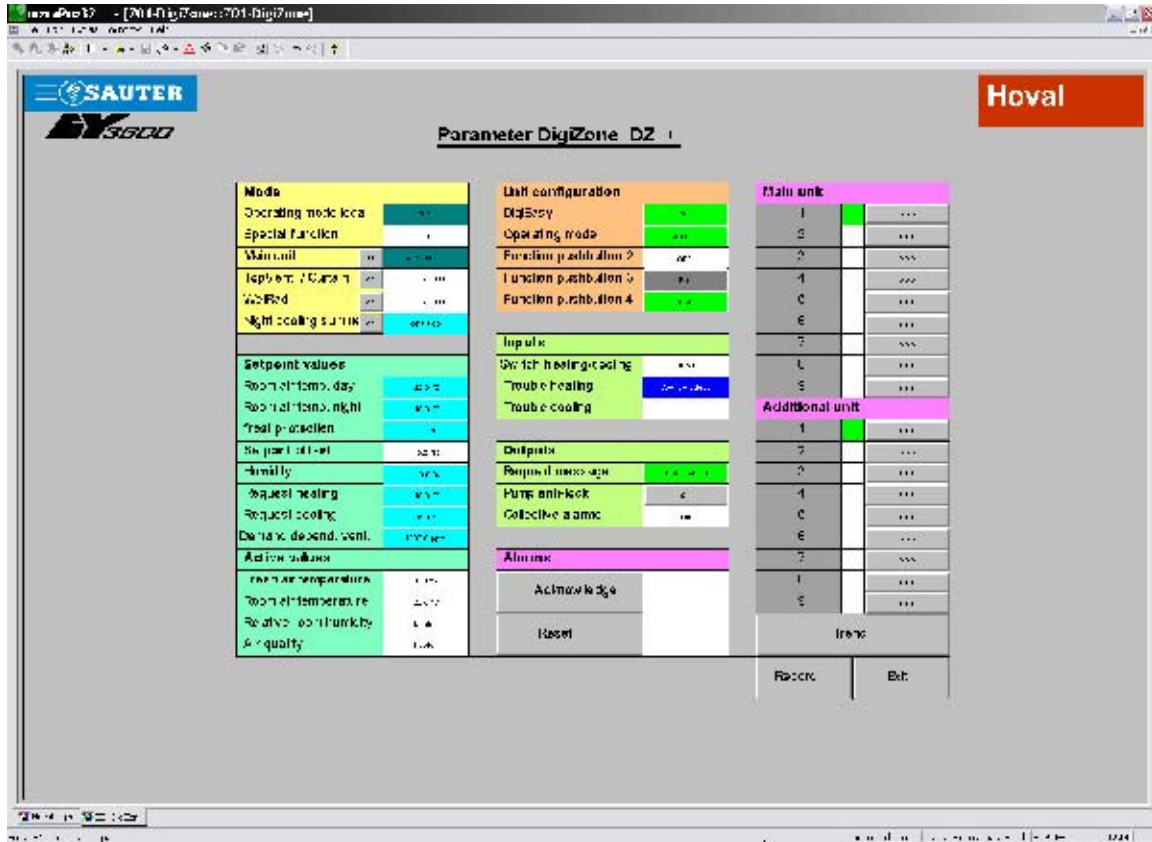
Illustration2-27: Zone schematic

The zone overview shows those parameters and statuses that are valid throughout the entire control zone.

The main devices that are present in this zone (DigiUnit) and the additional devices (DigiEco) are shown in green. Press the fast forward key to open the device in question:

Illustration2-28: Fast forward key

Information:
It is advisable to parameterise the main and additional devices first and then to set the zone parameters.

2.4.4 DigiUnit control

The device screen shows all the parameters and statuses for the selected device:
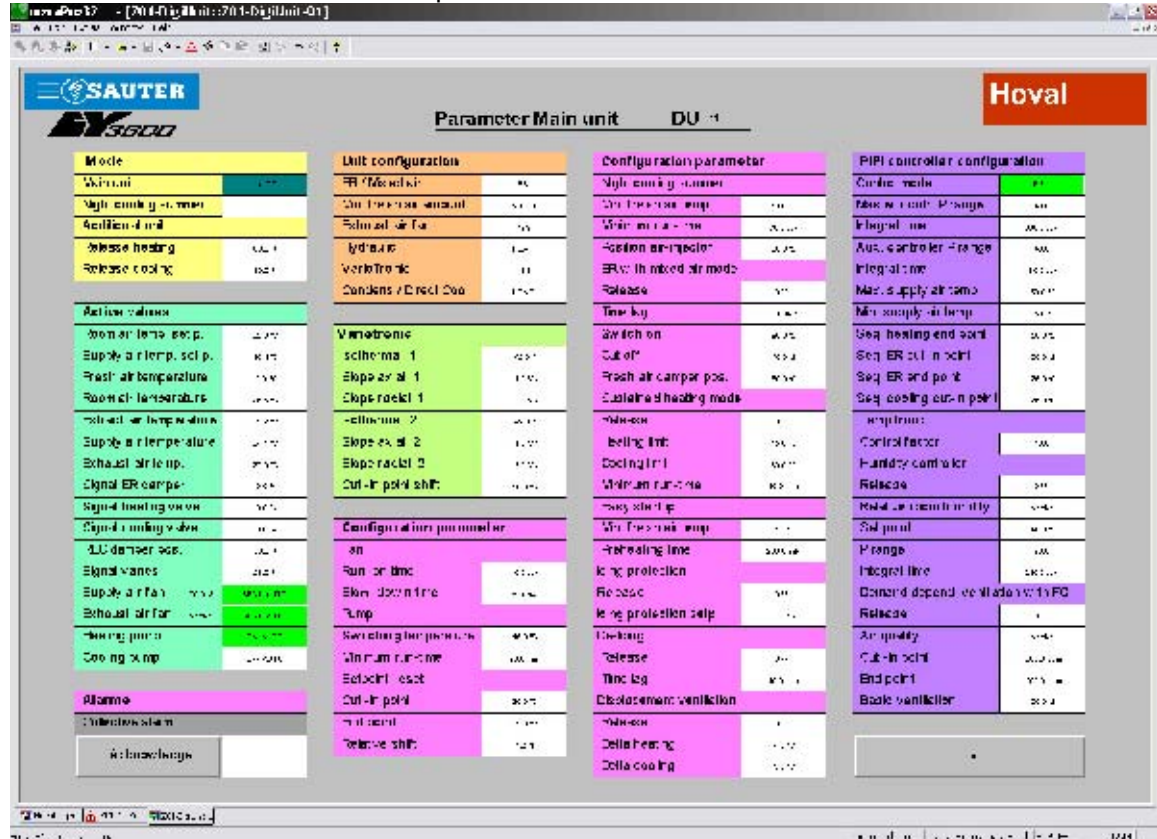
Illustration2-29: DigiUnit parameter list

2.4.4.1   Unit configuration

You specify the type of ventilation device in the 'Unit configuration' section. You can select the possible alternatives for each parameter from the context menu. To do this, click with the right-hand mouse button on the relevant input box and select the alternative you want.
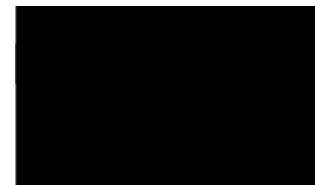
Illustration2-30: Unit configuration

To enter values for the 'Min. fresh air quantity' parameter, select 'Change value' in the associated context menu.

Illustration2-31: Change value

Enter the new value in the input window and confirm with 'OK'.
After a processing cycle, the new value is fed back from the controller and shown in the input box.

Change value

01b DU011.TC+MINA.sp1
Minimum fresh air amount

Value: 20.0 %

OK   Cancel
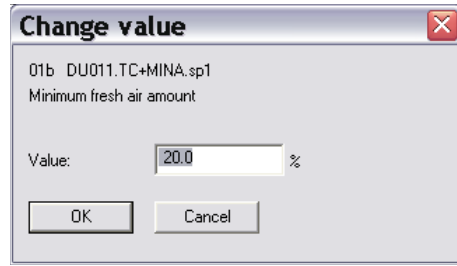
Illustration2-32: Enter value change

After a processing cycle, the new value is fed back from the controller and shown in the input box.

Information:
If the input value is outside of the permitted input range, the highest or lowest possible value is automatically effective (minimum 0 %, maximum 100 % here).

The configuration number resulting from the selected parameters is shown in the section header.

2.4.4.2 Variotronic

If the ventilation device is fitted with a servo motor to adjust the swirl blades automatically, the associated default parameters can be adapted to the particular conditions in the 'Variotronic' section.
Click with the right-hand mouse button on the relevant input box and the context menu to select the 'Change value' input mask will open (see also the picture in Illustration2-31: and Illustration2-32: Enter value).

Illustration2-33: Variotronic

2.4.4.3 Configuration parameters

In the 'Configuration parameters' section, you can adjust the default parameters for various functionalities of the ventilation device if you need to.
The 'ERG', 'Backup mode', 'Icing protection', 'Defrost switching' and 'Source ventilation' options can be switched on or off via the respective 'Enable' parameters.

Illustration2-34: Configuration parameters

2.4.4.4 Control parameters

In the 'Configure PIPI controller' section, you can specify the control strategies and the associated control parameters.

Illustration2-35: Control parameters

Information:
It is usually sufficient to set the starting points for the sequence in relation to the power levels for the individual elements. The P-Band and Reset time parameters are preset for 'robust' control behaviour.

2.4.4.5 Alarms

If an alarm is active in the control zone of the selected DigiUnit, this is signalled in red in the 'Collective alarm' field of the 'Alarms' section.
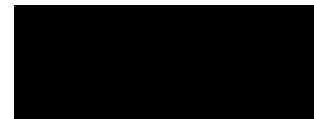
Illustration2-36: Collective alarm

2.4.4.5.1 Alarm details in the alarm list

From the icon bar, select the ⚠ command button. This opens the alarm list.

You will find details about the information in the alarm list in 2.5.5.
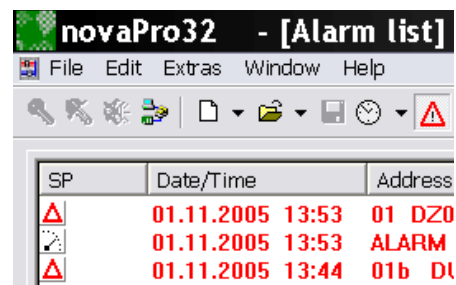
Illustration2-37: Calling up the alarm list

2.4.4.5.2 Alarm reset

After the fault has been rectified, you must press the '**Reset Alarm**' button. This resets the stored alarms for the control zone.

2.4.4.6 Plant mode

In the 'Plant mode' section, the DigiUnit can be put into an operating mode that diverges from the control zone.
Also, you can specify the Enable values for any additional DigiEco devices that might be assigned.
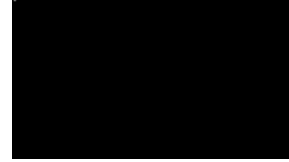
Illustration2-38: Plant mode

2.4.4.7 Current values

The 'Current values' section shows the current operating values.

Illustration2-39: Current values

2.4.4.7.1 Override equipment

The supply air fan, the exhaust air fan, the heating pump and the cooling pump (if they are present for this type of device) can be overridden with the help of the context menu, for test purposes.
Select the '**Auto**' command to return them to automatic mode.
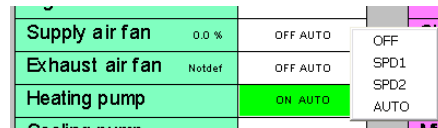
Illustration2-40: Override equipment

2.4.4.7.2 Override control signals

The control signals for the ERG damper, heating valve, cooling valve, FA/RCA damper and swirl blades (if they are present for this type of device) can be overridden with the help of the 'Change value' command in the context menu, for test purposes.
Select the '**Aut AO**' command to return them to automatic mode.
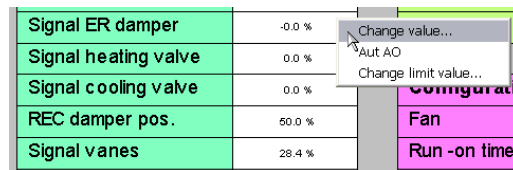
Illustration2-41: Override control signals

2.4.4.7.3 Apply limit values to measured values

For monitoring purposes, limit values can be applied to the measured values using the 'Change limit value' context menu .

Illustration2-42: Limit values

You can define an upper and/or a lower limit value.

Illustration2-43: Change limit value

Violation of the limit value is signalled by changing the colour of the measured value (red for too high, blue for too low).
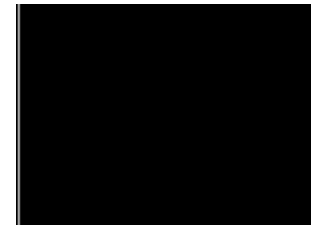
Illustration2-44: Limit value violation

The acknowledgement in the context menu allows you to document the fact that the limit value violation has been noted. The acknowledged limit value is signalled by changing the colour of the measured value (magenta for 'upper limit value acknowledged', light blue for 'lower limit value acknowledged').
.
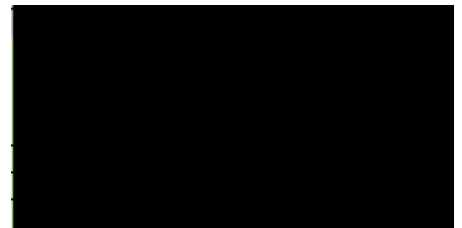
Illustration2-45: Acknowledge limit value

Information:
For more extensive function analyses, the possibilities offered by Trend / Historic database are available if needed, see Section 2.5.6.

2.4.4.8 Close parameterisation

Enter the device number in the title line:

Information:
The individual restart delay after a mains voltage break is calculated on the basis of the device number entered here.

2.4.4.9   Return to 'DigiZone' view

Press the 'Exit' button to return to the 'DigiZone' view:

Exit

Repeat the parameterisation for the other DigiUnit devices.

2

2.4.5 DigiEco control

Parameterisation of the DigiEco control is carried out in the same way as for the DigiUnit control, as appropriate.

Use the 'Main device' parameter to specify the DigiUnit device to which the DigiEco device is assigned.

2.5 General operating functions

2.5.1 The screen

2.5.1.1 Calling up a novaPro32 picture

A user can open pictures that are selected for him via the 'File|Open|Picture' menu (see Illustration2-46). The 'Picture' command opens the selection of plant schematics (see Illustration2-48). The 'ASGroup' command opens the selection of AS groups (see Illustration2-49).

Alternatively, you can open a picture directly via the icon bar (see Illustration2-47) or directly from the document browser:
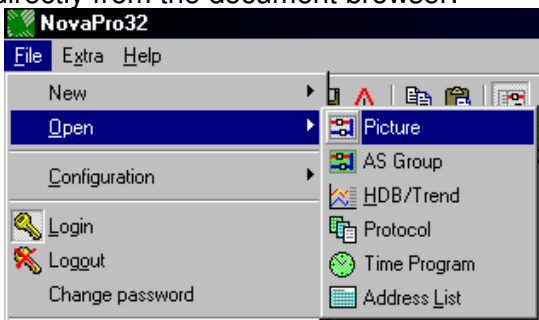
Illustration2-46: Open a picture
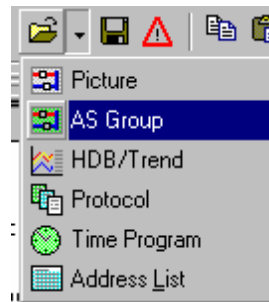
Illustration2-47: Icon bar
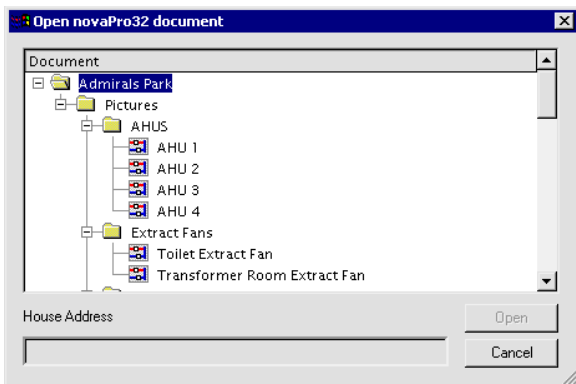
Illustration2-48: 'Plant schematics' selection
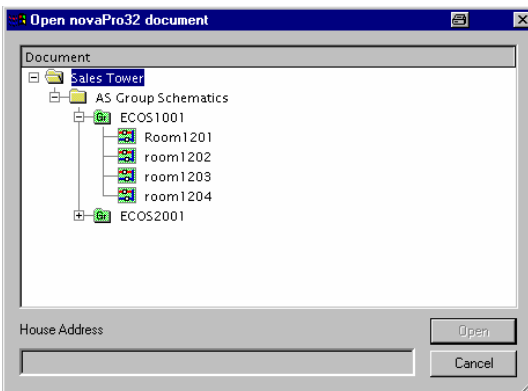
Illustration2-49: 'AS group pictures' selection

The next section explains the most important functions in greater detail with the help of a simple example:

2.5.1.2 Functions in novaPro32 pictures

Illustration2-50: Typical novaPro32 picture

The image shows a NovaPro32 screen (AHU 1 - North East and South East Zones) with the following callout labels:
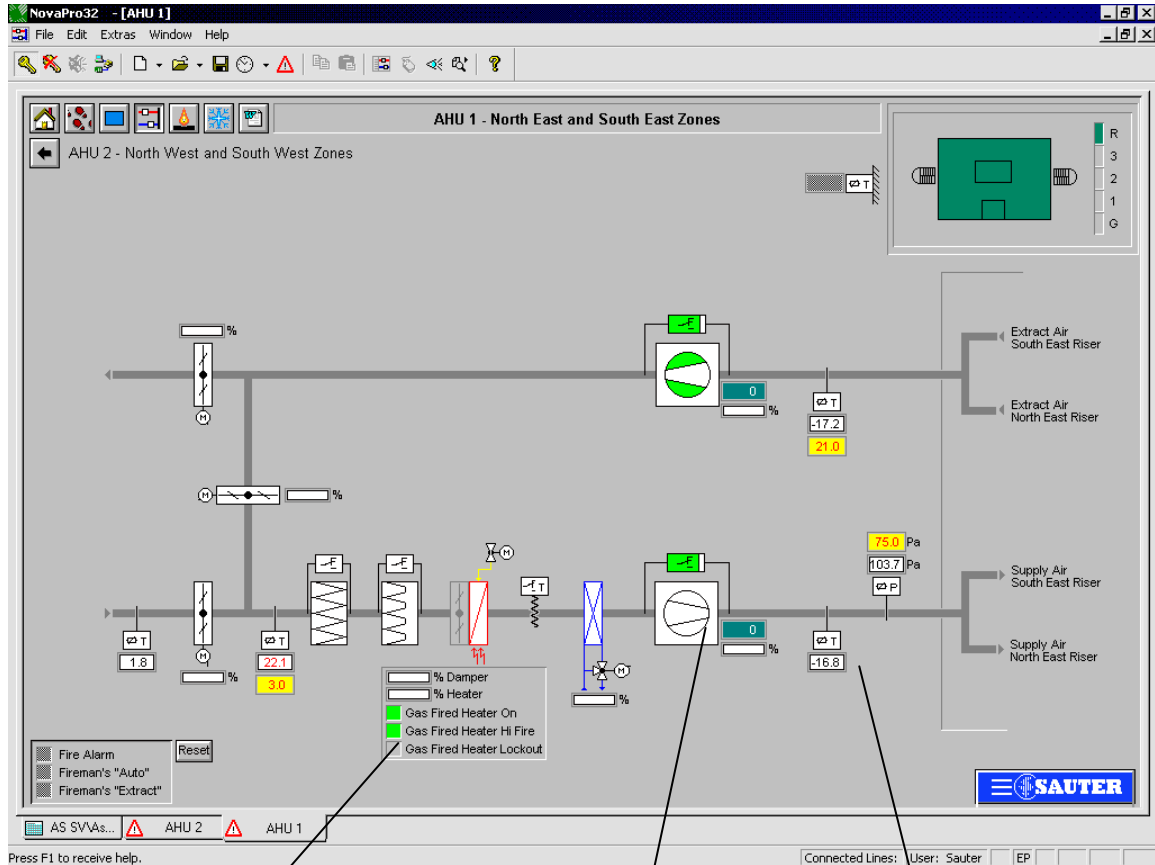
- Display an alarm by changing the color of a schematic symbol
- Display of an actual temperature reading
- Display of an alarm message by changing color of a field

2.5.1.2.1 Acknowledging alarms

In pictures, alarms can be shown as text messages as well as fields that change colour. The supervisor (system administrator) is free to choose the colours to indicate the various statuses (normal, alarm, acknowledged) when the pictures are being dynamised.

Example:

Field colour	Status
white	normal
red	alarm
blue	acknowledged

Active alarms can be acknowledged using the context menu, with the right-hand mouse button.
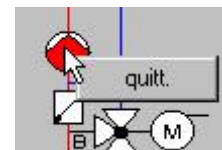
Illustration2-51

2.5.1.2.2   Changing limit values

If the measured values are dynamised, the set limit values can be changed using the context menu.

Illustration2-52

- Call up the context menu: right-hand mouse button
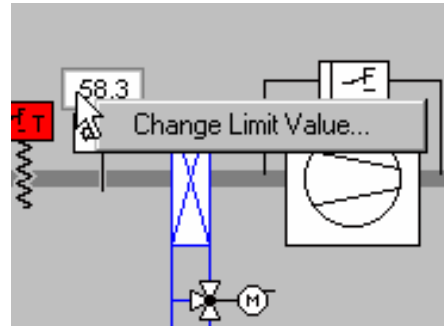
- Enter the new limit values and confirm with 'OK'.
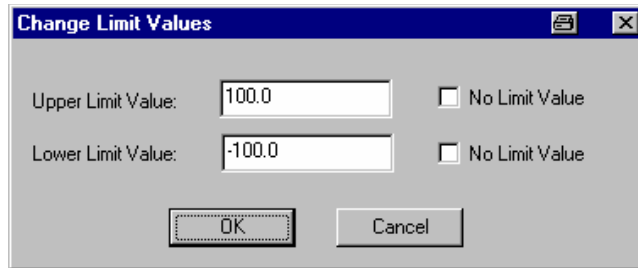
Illustration2-53: Changing limit values

2.5.1.2.3   Changing setpoint values

Setpoint values can also be adjusted online in the same way as limit values.

Illustration2-54

- Call up the context menu: right-hand mouse button
- Select 'Change Value'
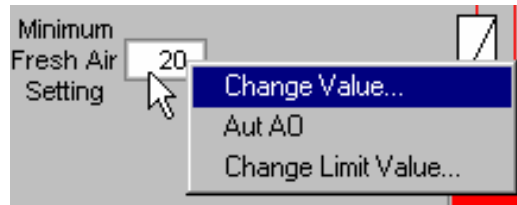
- Enter the new setpoint value and confirm with 'OK'.

Illustration2-55: Changing a setpoint value

2.5.1.2.4 Commands

Commands (such as switching a fan) can be triggered via the context menu of a field, if it is parameterised for this purpose. To do this, click on the field with the right-hand mouse button. You can then select the command you want in the context menu.

The command field changes colour depending on the status of the address belonging to the field, i.e. the field colour and the text it contains serve as feedback.

Example: OFF   switch the fan off
          Low   switch the fan to a slower setting.
          High switch the fan to a faster setting.
          Aut   'automatic' setting, i.e. the fan is now controlled by the AS user programme or by a time programme.
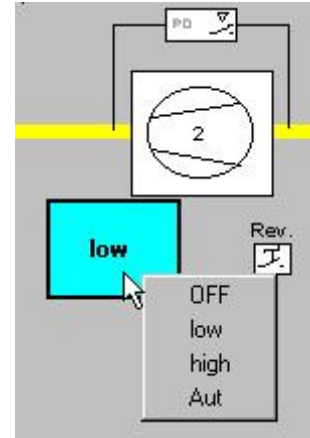
Illustration2-56: Switching command

2.5.1.2.5 Control buttons

Depending on the way the **novaPro32** picture is parameterised, various actions can be executed with buttons. Click on the button with the left-hand mouse key and the relevant command will be executed without delay.

Possible commands:-

- Execute a switching command, such as opening or closing a ventilation damper, etc.
- Call up a subsequent picture (the current picture is closed).
- Zoom into another picture (the current picture remains open).
- Open a time profile
- Open an alarm list
- Open a protocol
- Call up an external program, or run an external file with the associated programme (play a sound file, start a video, etc.)
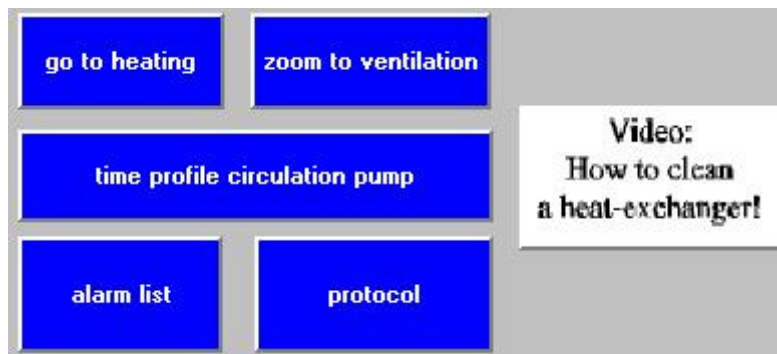
Illustration2-57: Control buttons

Any desired picture can be assigned to a button by the System Administrator, so the appearance of a button can easily be adapted to the function assigned to it.

Illustration2-58

2.5.2 Time profile

The calendar and the time profiles based on it are used to specify the time behaviour of automation station (AS) addresses. 320 time commands are possible per AS (or 64 for **ecos**). Special days (public holidays, vacation, etc.) - i.e. variations from the annual calendar - can be parameterised in the calendar.

Both the calendar and the time profiles are saved in the automation stations. Configuration is menu-prompted from **novaPro32,** or from the nova240 / nova250 operating terminals.

2.5.2.1   Create a new time profile

Use the 'File| New| Time profile' menu command to create a new time profile, or select the 'New AS Time profile' command from the context menu for folder 'AS Time profiles' in the novaPro32 document browser.
Then select a house address for which you want to create a time profile.
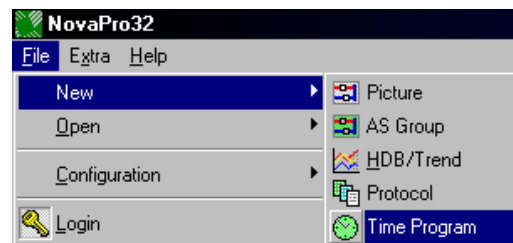
Illustration2-59: Create new time profile

2.5.2.1.1   Select address

Context menu:

Use the context menu for the time profile (right-hand mouse button) (see Illustration2-60) to go via 'Selection' to the properties window (see Illustration2-61):
From the address selection (see Illustration2-62), select the house address for which you want to create a time profile.
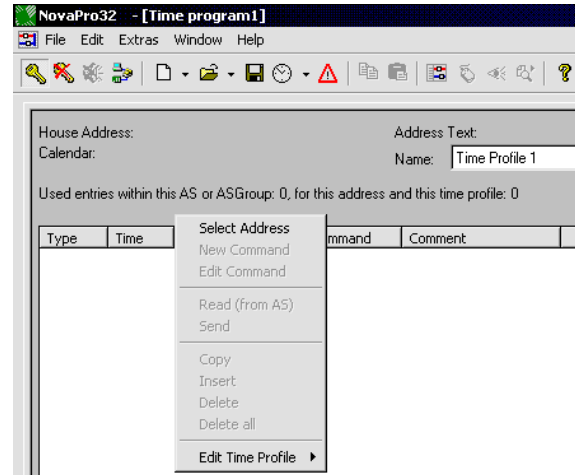
Illustration2-60: Context menu for time profile

Illustration2-61: Properties

In 'Address Selection', you can select the address which is to be given a time profile.
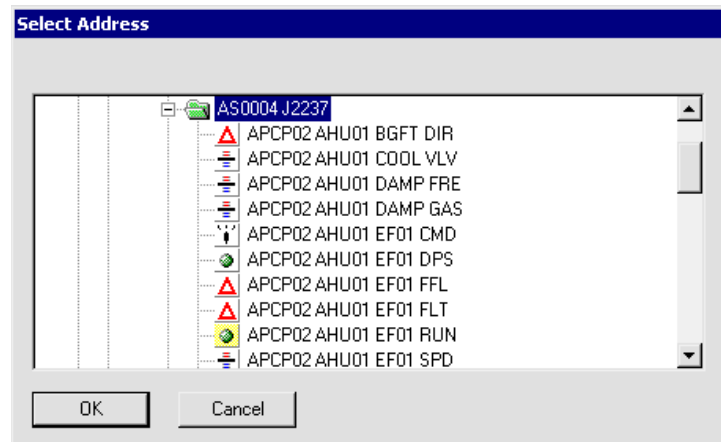
Illustration2-62: Address selection

Address browser:

You can also insert the address you want directly from the address browser, using 'drag and drop'.
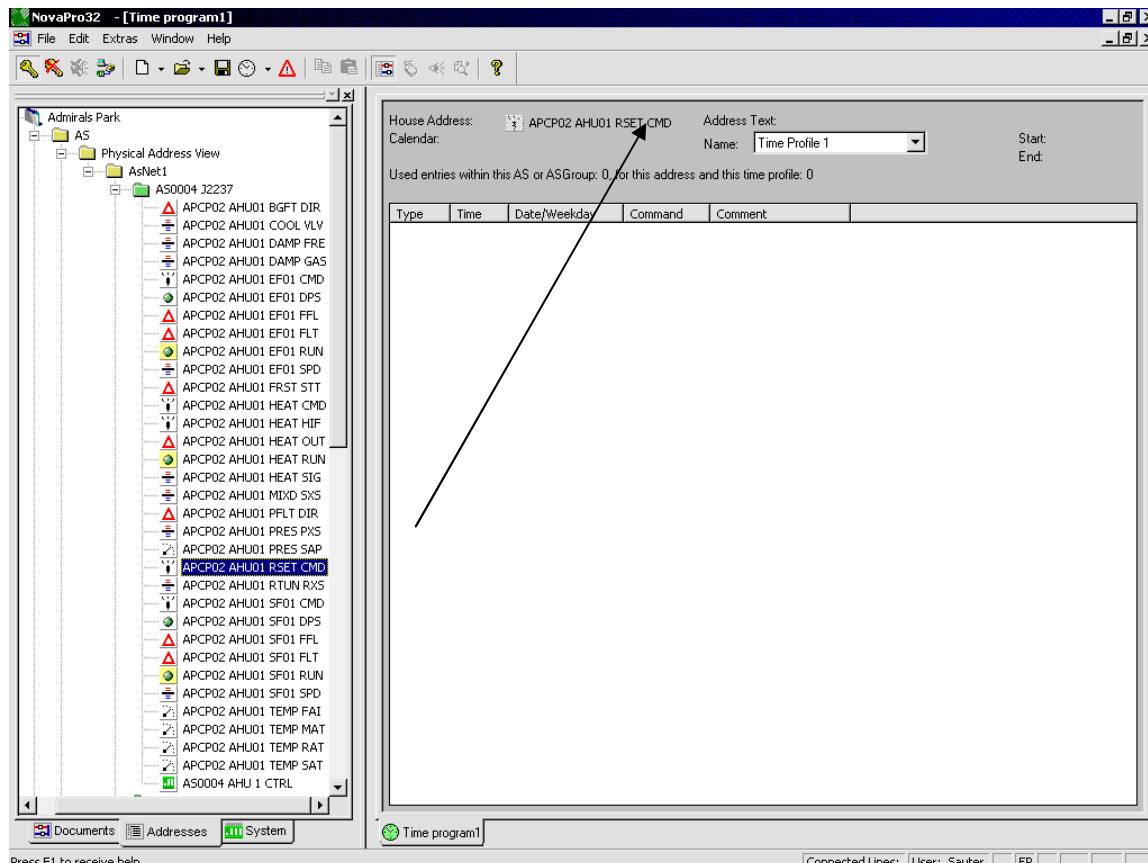
Illustration2-63

2.5.2.2   Opening an existing time profile template

Open a time profile that already exists from the 'File|Open|Time profile' menu and select a time profile that already exists from the file selection box.

Alternatively, you can open a time profile template with the 'Open' icon in the icon bar, with a button configured for this purpose in a **novaPro32** picture, or by double-clicking on the relevant time profile icon in the novaPro32 document browser.
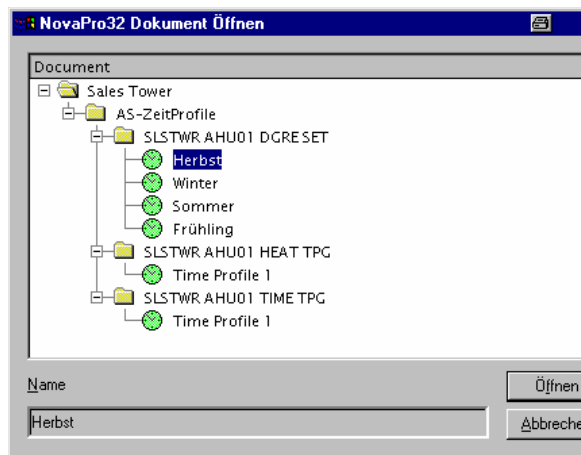
Illustration2-64: Opening a time profile

Illustration2-65: Time profile

2.5.2.3 Read a time profile from the AS

Parameterisation of the time and vacation programmes can also be handled by other AS network participants (non-networked novaPro32 operating stations) or with the 'nova240' manual user panel. This makes it **necessary** to read the current data for an address from the automation station before you change the time profile.

Use the 'Read (from AS)' command in the context menu (right-hand mouse key) (see Illustration2-66) to read the time profile for the selected address back from the AS into **novaPro32** and to display it.

If no entry is present, you will see this message:
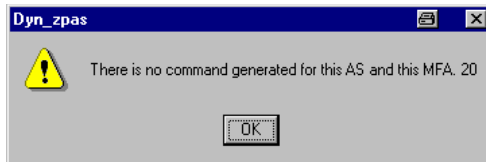
Illustration2-67
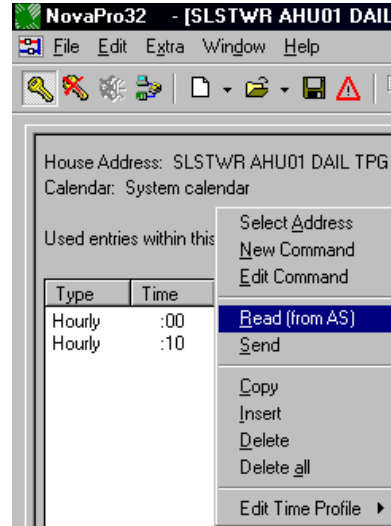
Illustration2-66: Context menu

2.5.2.4 Edit a time profile

2.5.2.4.1 Add a new command

To insert a new command into a time profile, select the 'New command' command from the context menu (right-hand mouse button). The 'Dyn_pas Control Properties' window will open.

On the 'TP parameters' tab, select the command you want (see Illustration2-68).
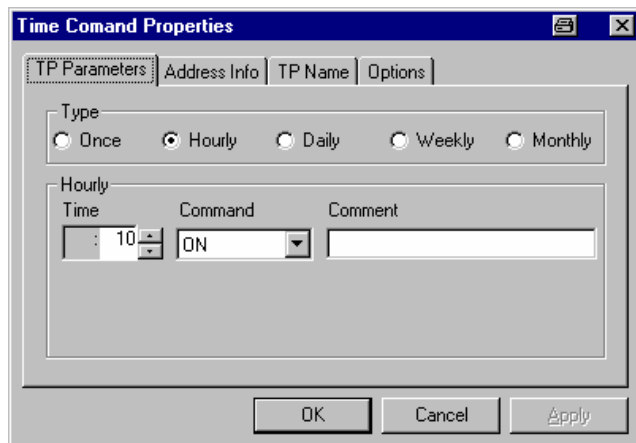
Illustration2-68: Time profile parameterisation

2.5.2.4.2 Change a time command

Select this procedure to change a command in an existing time profile:
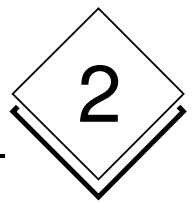
- select the command you want in the time profile.
- select the 'Change command' command from the context menu (right-hand mouse button).
  The 'Dyn_pas Control Properties' window will open.
- Make the changes you want.

2.5.2.4.3   Time command selection

Select the command you want in the 'Dyn_pas Control Properties' window on the TP parameters tab:

Click on the programme type that you want, and the next section of the window will be adjusted.

Type
○ Once   ⊙ Hourly   ○ Daily   ○ Weekly   ○ Monthly

Once:

Once
Time   Command   Comment
18 : 10   ON

at
3 . 7 . 2001

Time:

Hour:	**0-23**	time: hour
	*	every hour
Minute:	**0 - 59**	time: minute
	P4	every four minutes (0, 4, 8, 12, 16, ...)
	P8	eight times per hour (3, 11, 19, 27, 33, 41, 49, 57)
	P15	every quarter of an hour (00, 15, 30, 45)
	P30	every half-hour (00, 30)

Command:
The possible commands depend on the address type and its parameterisation.

on:

Day:	**1 - 31**	day of the month
Month:	**1 - 12**	month
Year:	**1997 -2059**	calendar year
	0	every year

Comment: maximum of 32 characters

Hourly:

Time:

Minute:	**0 - 59**	time: minute
	P4	every four minutes (0, 4, 8, 12, 16, ...)
	P8	eight times per hour (3, 11, 19, 27, 33, 41, 49, 57)
	P15	every quarter of an hour (00, 15, 30, 45)
	P30	every half-hour (00, 30)

Command:
The possible commands depend on the address type and its parameterisation.

Comment: maximum of 32 characters

Daily:

Time:

Hour:	**0-23**	Time: hour
Minute:	**0 - 59**	time: minute
	P4	every four minutes (0, 4, 8, 12, 16, ...)
	P8	eight times per hour (3, 11, 19, 27, 33, 41, 49, 57)
	P15	every quarter of an hour (00, 15, 30, 45)
	P30	every half-hour (00, 30)

Command:
The possible commands depend on the address type and its parameterisation (see the 'Command codes' table).

Comment: maximum of 32 characters

Weekly:

Time:

Hour:	**0-23**	Time: hour
	*	every hour
Minute:	**0 - 59**	time: minute
	P4	every four minutes (0, 4, 8, 12, 16, ...)
	P8	eight times per hour (3, 11, 19, 27, 33, 41, 49, 57)
	P15	every quarter of an hour (00, 15, 30, 45)
	P30	every half-hour (00, 30)

Command:
The possible commands depend on the address type and its parameterisation (see the 'Command codes' table).

Comment: maximum of 32 characters

Day selection:
Check the boxes   = active

Monthly:

Time:

Hour:	**0-23**	Time: hour
	*	every hour
Minute:	**0 - 59**	time: minute
	P4	every four minutes (0, 4, 8, 12, 16, ...)
	P8	eight times per hour (3, 11, 19, 27, 33, 41, 49, 57)
	P15	every quarter of an hour (00, 15, 30, 45)
	P30	every half-hour (00, 30)

Command:
The possible commands depend on the address type and its parameterisation (see the 'Command codes' table).

every:
day: **1 - 28** day of the month

Comment: maximum of 32 characters

2.5.2.4.4 Entry in the list

If all the parameters are correct, they must be transferred to the list line by line.

Press the '**Apply**' button to transfer the data into the list. You can perform other parameterisations for this address directly.
Press the '**OK**' button to transfer the data into the list, and the properties tabs will be closed.
Press the '**Cancel**' button if you do not want to transfer the last data that you parameterised, and the properties tabs will be closed.

2.5.2.4.5 Edit commands

You can edit the command lines of a time profile using the 'Copy', 'Add', 'Delete' and 'Delete all' commands.
To do this, select the command line(s) that you want, open the context menu and select the command.

2.5.2.5 House addresses with several time profiles

Several time profiles can be assigned to one house address in novaPro32. However, only one time profile is ever active in the automation station.
Use several time profiles per house address if you want to run a different time programme on the automation station in a particular season, for example. This enables you to prepare the time programme in advance on your PC so that you can load it into the automation station at the relevant time. The old settings will then stay saved on your PC (in the old time profile). This means you can always refer back to the old settings.

You can edit the time profiles with the commands from the 'Edit time profile' sub-menu of the time profile context menu (see Illustration2-69).
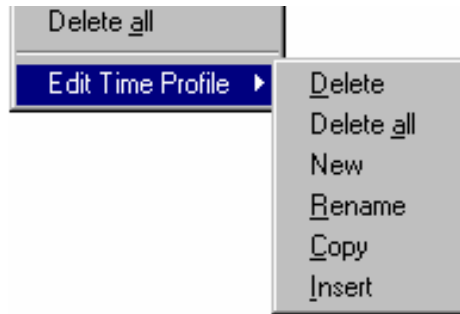
Illustration2-69: The 'Edit time profile' sub-menu

2.5.2.6 Send to AS

After you have finished parameterising the address you want, the data must be sent to the AS.

Press the right-hand mouse button and click on **'Send'.**
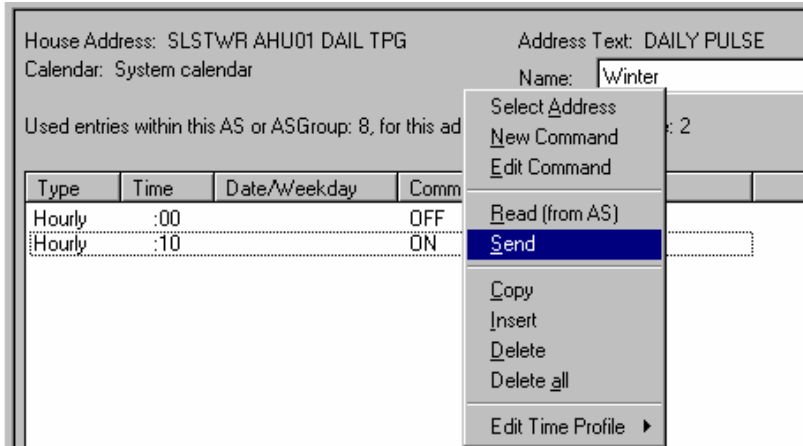
Illustration2-70
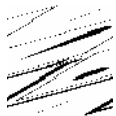
The warning shown opposite appears before the download:
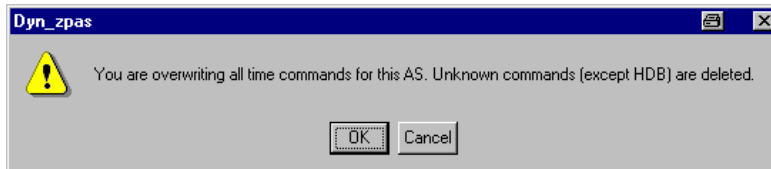
Illustration2-71

- Confirm entries with **'OK'**.
  The data will be sent.

- Press **'Cancel'** to exit without sending.

2.5.3 Synchronise AS clocks
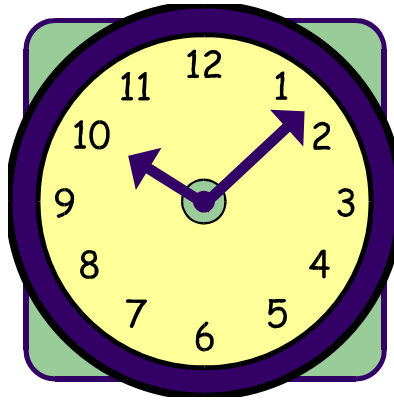
In every automation station of the EY3600 system, there is an independent time basis.
All time-based functions of the station access this time basis.

Examples:
- Time profiles
- HDB entries
- Event Publisher

To call up the function to synchronise all the clocks in a network, go to the
'File | Configuration ➜ AS network synchronisation' menu.

In the 'AS network synchronisation' window (see Illustration2-72), press the 'All AS networks' button to set the times of all the automation stations in the project to the PC's time.
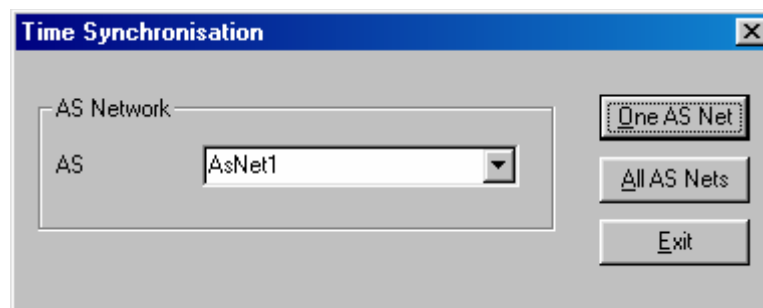
Illustration2-72: AS network synchronisation

2.5.4 Calendar
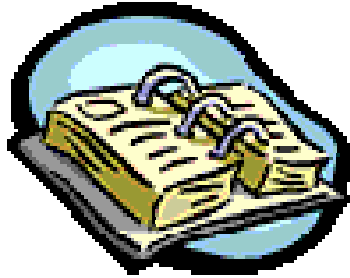
The calendars form the basis for the time programmes of the EY3600 system.

The AS calendar serves as the basis for the automation station time programmes; once it has been configured successfully in **novaPro32**, it is loaded into the automation stations; this means that the calendar is stored in the automation stations. This guarantees that the time programmes will run correctly, regardless of novaPro32's operating status. The system calendar is assigned to all the automation stations by default.

With the **novaPro32** calendar configuration, you can assign a substitute day to every day within 2 years (even and uneven year numbers); this means that you can assign 'Sunday' as the substitute day of the week for the public holiday on 25 December. For all time programmes based on the day of the week, 25 December will then behave like a Sunday, regardless of the actual day of the week on which it falls.
As well as the normal days of the week (Monday to Sunday), eight special days are available. The special days can be called up within the time programmes like days of the week. They can be used to define exceptional days for time programmes based on days of the week.

You can open or edit a calendar on the basis of your user rights.

In **novaPro32,** you can parameterise as many AS calendars as you want, and you can load them into the automation stations as required.
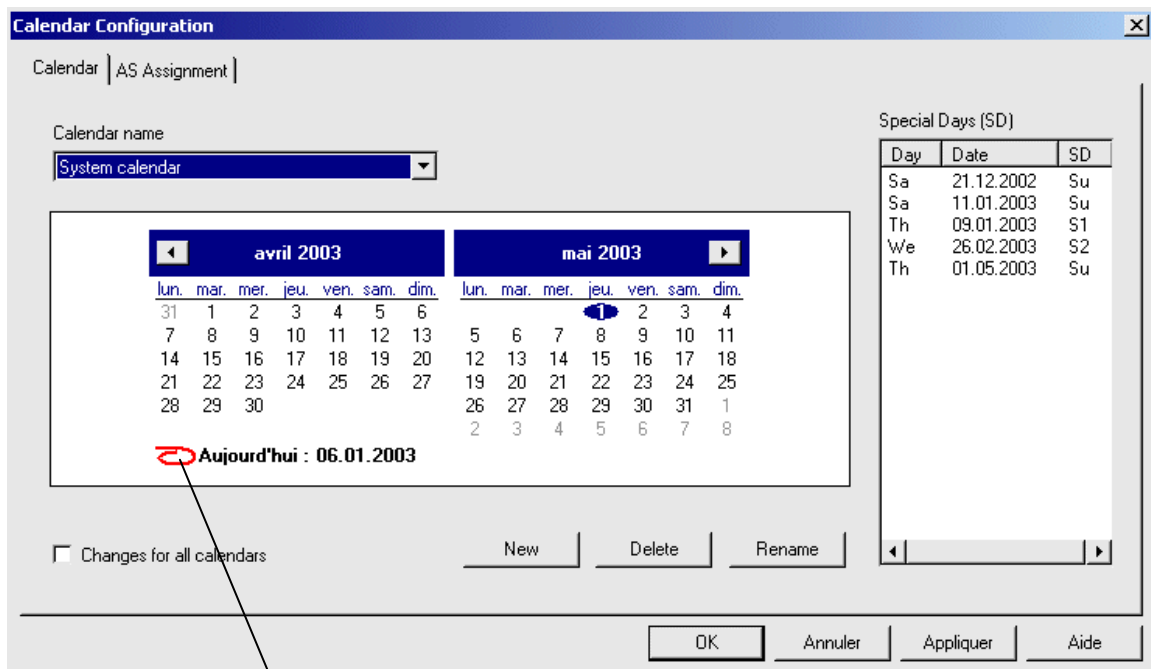
Illustration2-73: Calendar configuration, overview

2.5.4.1 Create a new calendar

Use the 'File | Configuration ➔ Calendar' menu to go to the calendar configuration. On the 'Calendar' tab, select the calendar you want in the 'Calendar name' box.
In **novaPro32,** you can parameterise as many AS calendars as you want, and you can load them into the automation stations as required, or you can define different calendars for various automation stations.

- Enter a new name in the 'Calendar name' box.
- With the left-hand mouse button, click on the 'New' command button ➔ the new calendar is created.

2.5.4.2 Delete a calendar

- Select a calendar in the 'Calendar name' box.
- With the left mouse button, click on the 'Delete' command button

2.5.4.3 Rename a calendar

- Select a calendar in the 'Calendar name' box.
- Enter a new name in the 'Calendar name' box.
- With the left-hand mouse button, click on the 'Rename' command button.
- The calendar will be saved under the new name.

Note:
The system calendar cannot be renamed!

2.5.4.4 Assign a substitute day

You can assign a substitute day to any day of the year. To do this, use the mouse to select a date, and then assign a substitute day to the date with the help of the 'Select Day' window.

You can choose the substitute days from the 7 days of the week (Monday to Sunday) plus 8 special days.

The 'Substitute Day (SD)' field lists all dates which have substitute days assigned to them.
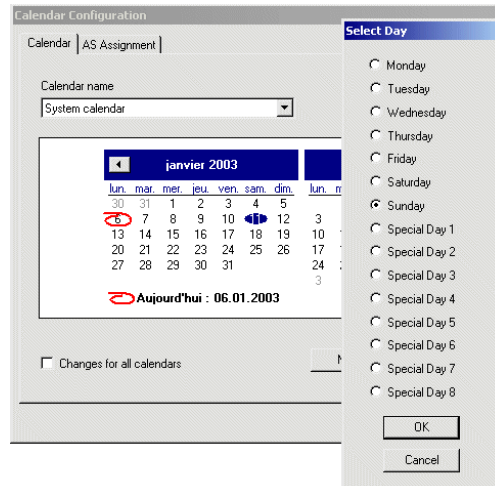
Illustration2-74: Assigning a substitute day

2.5.4.5 Deleting a substitute day

- With the mouse, select the date whose substitute day you want to delete.
- With the help of the 'Select Day' window, assign the real day of the week. The date will immediately be deleted from the 'Substitute day (SD)' field.

2.5.4.6 Assign an AS to a calendar

An automation station is always assigned to a calendar. Every automation station is assigned to the system calendar by default.

To assign a station to another calendar, it is advisable to proceed as follows:

- Select the 'AS Assignment' tab
- Select the system calendar in 'Calendar name'.
- From the list on the right, select an automation station and use the '<' command button to move it into the 'AS not belonging to any calendar' field.
  The automation station is temporarily not assigned to any calendar.
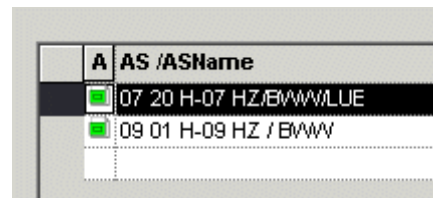
Illustration2-75

When you exit from the calendar configuration, all automation stations in the field 'AS not belonging to any calendar' are automatically assigned to the system calendar.

- Select an AS calendar in 'Calendar name'.
- From the list on the left ('AS not belonging to any calendar'), select an AS and use the '>' command button to move it into the right-hand field.
- Click on the 'Send' command button to load the new calendar into the automation station.

2
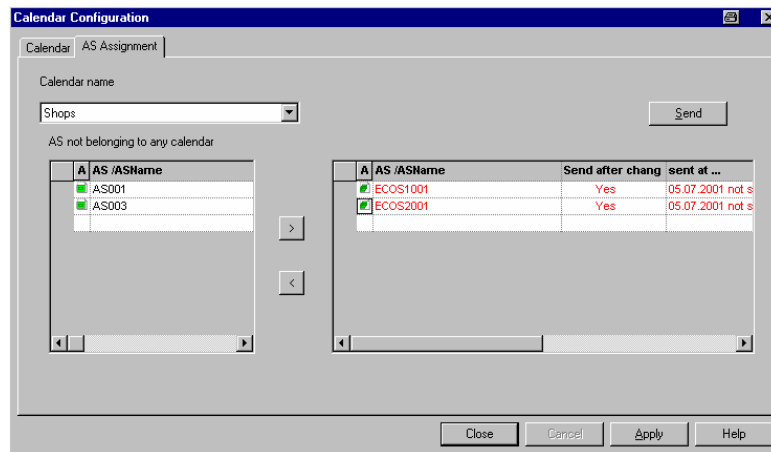
Illustration2-76: Assigning an automation station to a calendar

2.5.4.7 'Send after change' parameter:

Use the 'Send after change' parameter to specify whether the calendar should automatically be loaded into the assigned automation station if there is a change.

Fig. 2-77: Parameters 'Send after change'

This parameter is set to 'No' by default.
If the parameter is set to 'No', you must trigger the calendar download into the assigned automation stations manually, by clicking on the 'Send' button.
Automation stations or AS groups which do not respond when the calendar is loaded are marked in red. In this case, please check the data connection to the stations mentioned.

Example - Illustration2-76

In the example mentioned, the automation stations designated as AS2 and AS3 are assigned to the calendar designated as 'Business'. If there is a change, the calendar is immediately loaded into automation station AS2 (the 'Send after change' parameter is set to 'Yes').

However, the calendar is not automatically loaded into automation station AS3 (the 'Send after change' parameter is set to 'No'). With the left-hand mouse button, click on the 'Send' command button so that the calendar is loaded into automation station AS3.

Automation stations AS4 and AS5 are not assigned to any calendar. You can use the '>' command button to assign these stations to the 'Business' calendar.
If you do not assign the stations to a calendar and you exit from the 'Calendar Configuration' dialogue, the system calendar is assigned to all the automation stations in the 'AS not belonging to any calendar' field.
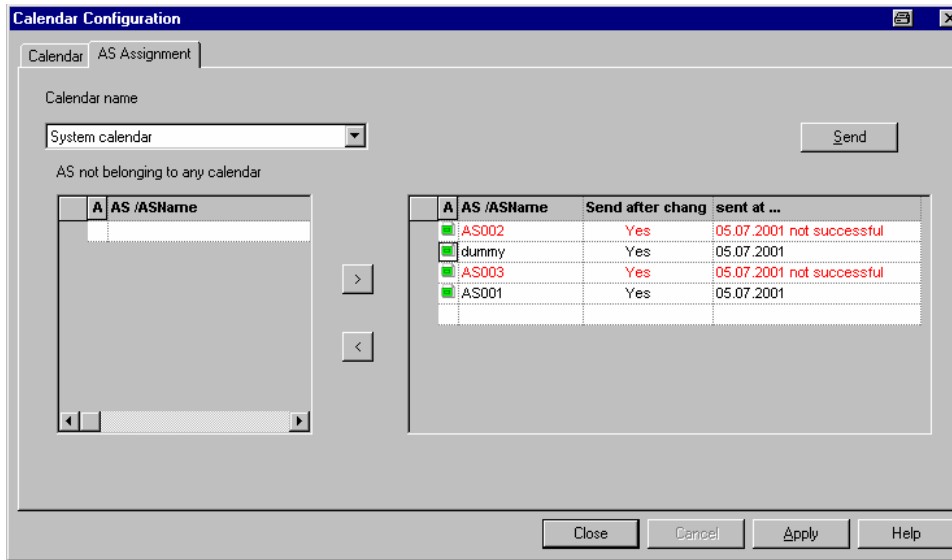
Illustration2-78: Result of 'Send'

2.5.5 Alarms

Once a user has logged in, the alarm list provides him with a quick overview of the current status of the installation.

2.5.5.1 Show alarm list

Open your user-specific alarm list by clicking on the 'Warning triangle' icon in the **novaPro32** icon bar.
.
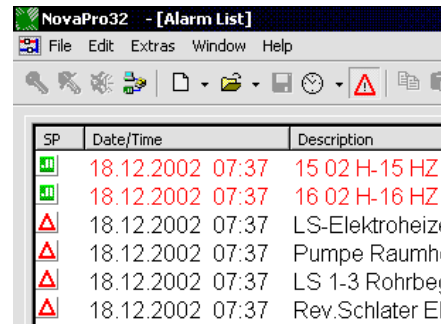
Illustration2-79: Calling up the alarm list

2.5.5.2 Alarm list display
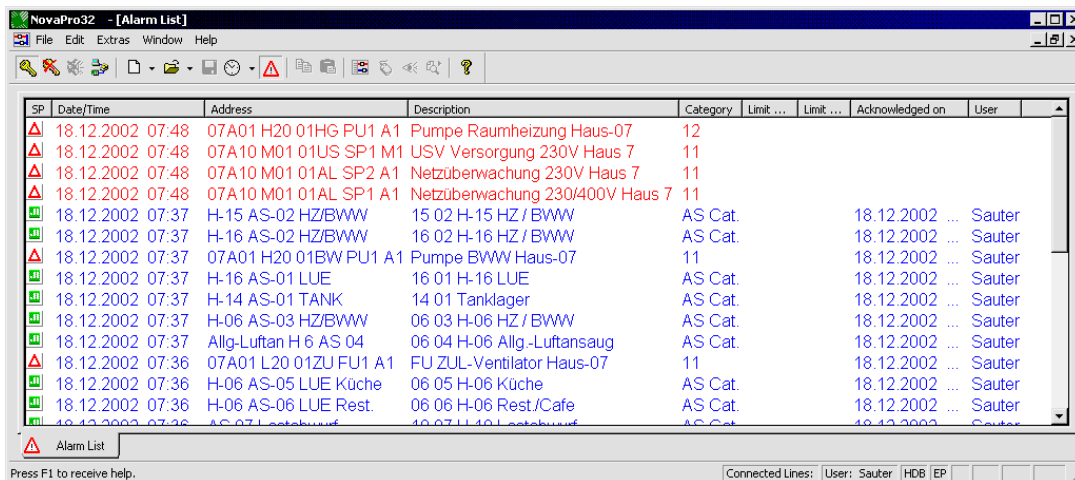
Illustration2-80: The alarm list

Date/time when alarm occurred/Designation of alarm signal/Current limit values/Name of operator who acknowledged the alarm / Precise data-point address/Designation of alarm status/Date and time of alarm acknowledgement

red: active alarm, not acknowledged

blue: active alarm, already acknowledged
The 'Caused by' column shows the user who acknowledged the alarm.

black: alarm which has already ceased without acknowledgement
Once a message shown in black has been acknowledged, the message is deleted from the alarm list.

- You can change the order within a column (ascending or descending) by clicking in the header (as in Windows Explorer).
- The order within the 'Status/value' column depends on these 3 statuses:
  (1) alarm not acknowledged
  (2) alarm acknowledged
  (3) return to normal status, not acknowledged
  and it can be specified as follows:
  the first click selects order [1 - 2 - 3];
  the second click selects order [3 - 2 - 1].
- As in Windows Explorer, set the column width by dragging the column borders with the mouse while keeping the left-hand button pressed down.
- Use 'drag and drop' to position the columns

2.5.5.3 Call up alarm list automatically:

If an alarm occurs, the alarm list is automatically shown on top.

2.5.5.4 Call up alarm list manually:

Click on the 'Alarm list' icon (warning triangle).

2.5.5.5 Working with novaPro32 in the background

After the programme has been started and the alarm list has been displayed, **novaPro32** can be run as a background application in Windows. A warning triangle in the Windows task bar will alert you if an alarm occurs while you are working with another Windows application (such as Office software) in the foreground.

Warning triangle

red triangle:	there is at least one unacknowledged current alarm.
blue triangle:	there is at least one acknowledged current alarm, but no unacknowledged current alarms.
black triangle:	there is at least one alarm which has not yet been acknowledged, but is no longer current (but there is no current alarm, either acknowledged or unacknowledged).
green triangle:	the alarm list is empty.

Illustration2-81: What the warning triangle means

2

2.5.5.6 Operating the alarm list

The context menu
Click with the right-hand mouse button on an alarm message, and the context menu will appear.
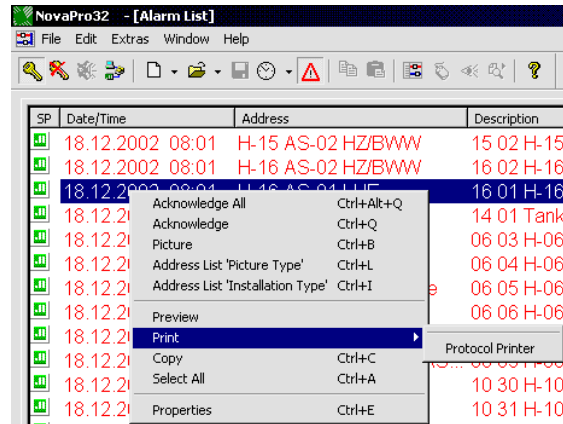
Illustration2-82: Alarm list context menu

Acknowledge All:	All alarm messages that are current at this time are acknowledged.
	The date and time of the acknowledgement are entered in the 'Date/Time' column.
	The operator's user name is entered in the 'Caused by' column.
Acknowledge:	Only the selected alarm is acknowledged.
Plant schematic:	This automatically calls up a picture where the selected datapoint occurs. If the datapoint occurs in several pictures, a selection is shown.
Address List: "Picture":	Opens an address list based on a picture. In the next dialogue, select the **novaPro32** picture whose dynamised addresses you would like to show in list form.
Address List: "Installation Type":	All addresses in the installation where the alarm occurred are shown in the form of an address list.
Preview:	Call up the alarm list print preview.
Print:	The alarm list is printed, based on the current template, on the printer that was defined as per Chapter 12 in the configuration manual (7000904003).
Copy:	The selected alarm messages are copied to the clipboard. This is a simple way of transferring the messages into a word processing program.

Mark all: All the entries in the alarm list are selected and shown as marked.

Properties: Displays the alarm list properties.

2.5.5.7   Acoustic alarms

An acoustic signal can be used to denote the occurrence of an alarm in novaPro32. The signal sound is reproduced by the PC sound card in this case.
Depending on the configuration, you must confirm the alarm sound by pressing any key, by clicking on the alarm icon (see the arrow in Illustration 2-83) or by acknowledging the alarm.

If an automatic alarm repeat is set, the signal sound will be repeated after an adjustable time (such as 15 minutes) once it has been confirmed, until the alarm is acknowledged or until it returns to the normal status.
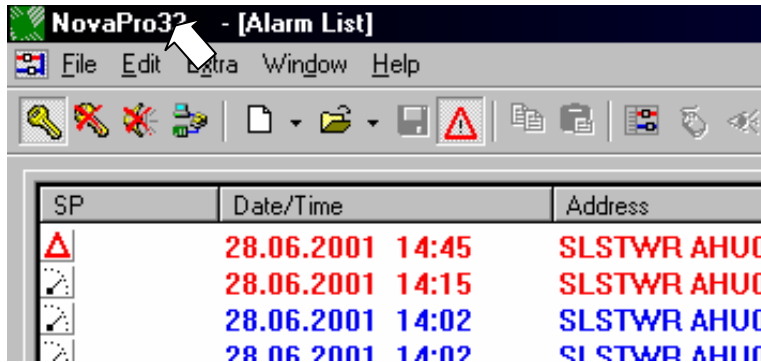
Illustration2-83: Confirming an acoustic alarm

2.5.6 Trend / Historical database

novaPro32 offers you a convenient tool to display measured values, status and alarm messages in graphic form. This enables you to record current process values as well as historical data in the form of charts or tables.

Charts show the progression of process values over time in graphic form. You can also refer to the values stored in the historical databases, or you can show the current process progression online.

You can define, edit and view a chart. It is displayed in a window where up to 10 activities (addresses) can be shown at the same time, each with its own colour and form.

2.5.6.1   Show new HDB/Trend

Open a new HDB/Trend using the 'File | New ➔ HDB/Trend' menu, or the 'New HDB/Trend' command in the context menu of the **novaPro32** Document Browser, or

select the ![icon] icon in the icon bar.

The window that will now appear on the screen consists of 3 frames: Title Lines (at the very top), Graphic (left) and Table (right) (see Illustration2-91).

Use the context menu (right-hand mouse button) of the 'Title' frame to go to the Properties window, where you can specify all the settings such as the address selection, type of presentation, time slot, etc.

The 'Address' tab shows an overview of all selected addresses (see **Fehler! Verweisquelle konnte nicht gefunden werden.**).

Mouse-click on the 'Addresses' command button to go to 'Address Selection' (see Illustration2-85).

Illustration2-84: 'Address presentation' tab

In the list of all addresses in the address selection, use the left-hand mouse button to mark one address, and copy it into the list of selected addresses with the help of the 'Main function' or 'Extra function' command buttons.

Main function

Additional function

Removes all
addresses

Address tree view of
the project

Removes a selected
address

Selected addresses
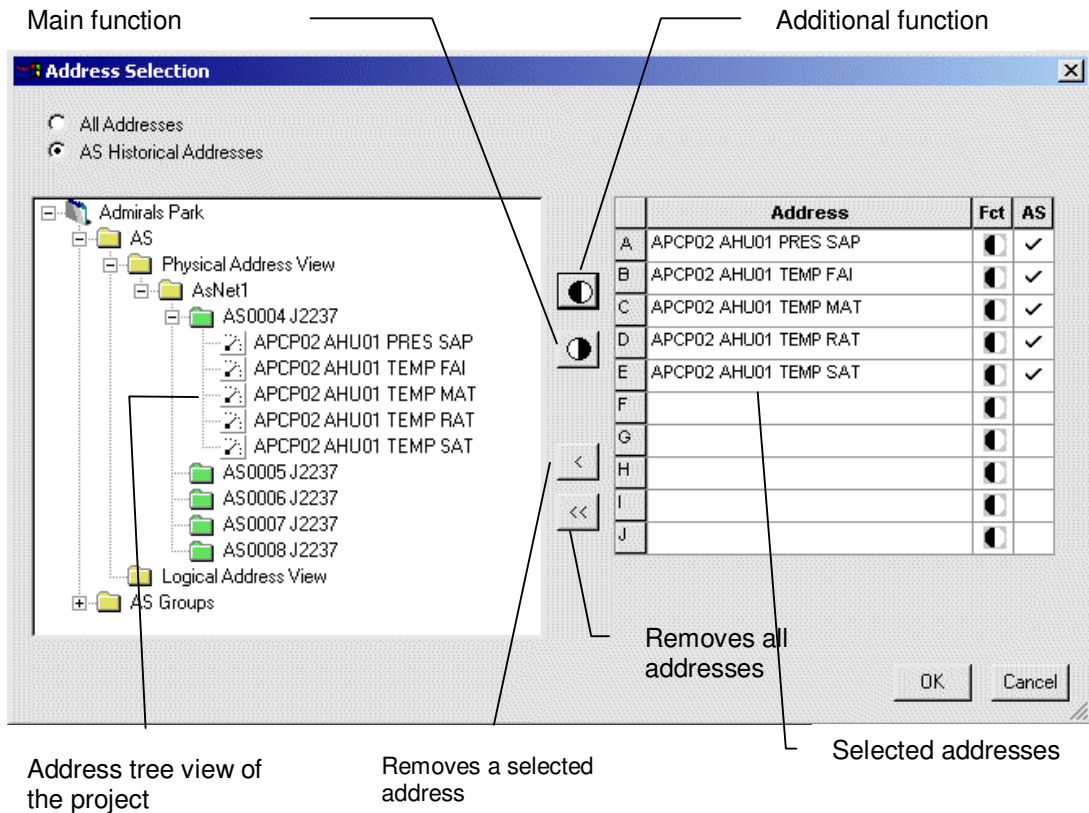
Illustration2-85: HDB/Trend-address selection

Use the 'Address Presenta-
tion' tab to specify the colour
and line type in the graphic
for each selected address.
The 'Decimal Places' box
defines the way numbers are
shown in the table.
At 'Graphical Presentation',
you can indicate a linear cor-
rection for analogue values,
so that several measured
values can be adjusted to
one common Y-axis.
The 'Connection' field en-
ables you to portray a curve
with either a point-to-point or
a stepped connection.
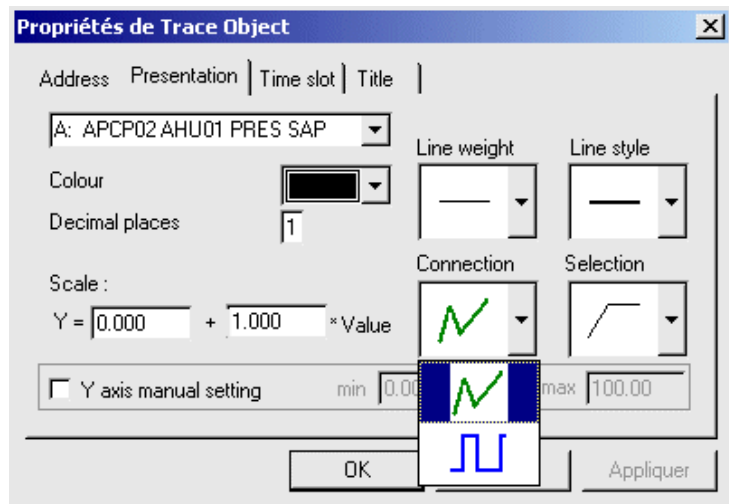
Illustration2-86: 'Address Presentation' tab

The 'Time Slot' tab defines the period of time to be shown.

With **Request Type 'Historical Data (HDB)',** you can set a start date and an end date to define a period of time from which historical data should be shown. In this operating mode, you are only shown data from the historical database (HDB) of the controller if they are still available in the ring memory (FIFO) of the controller.

With **Request Type 'Trend',** you define a period of time. This period determines the time span of the display window. The graphic will then show all spontaneous messages from the selected addresses from the current time onwards.

Illustration2-87: 'Time slot' tab

With **Request Type 'Trend + HDB',** data from the past are read from the historical database and displayed. The display is automatically continued for any desired period with spontaneous messages from the selected addresses.

Use the 'Title' tab to define the header for the HDB graphic. In the 'Key' area, you can select attributes such as the address, address text and units which are to be used to identify the selected addresses.
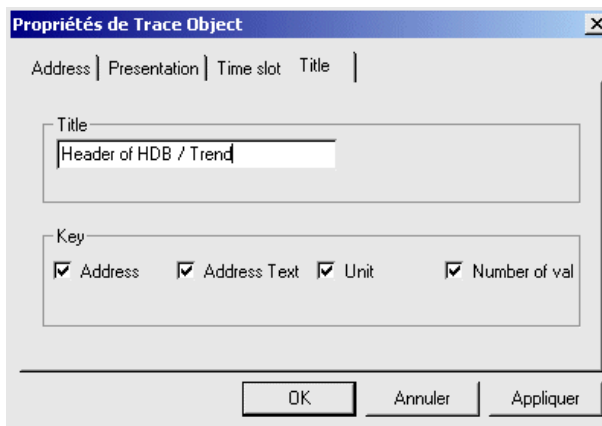
Illustration2-88: 'Title' tab

Finally, you can save the configuration for HDB/Trend on the PC's hard disk. To do this, select the 'Save' command from the 'File' menu and enter a designation in the dialogue that appears now. The HDB/Trend configuration is automatically stored in the 'HDB/Trends' folder of the novaPro32 Document Browser (see Illustration2-89).
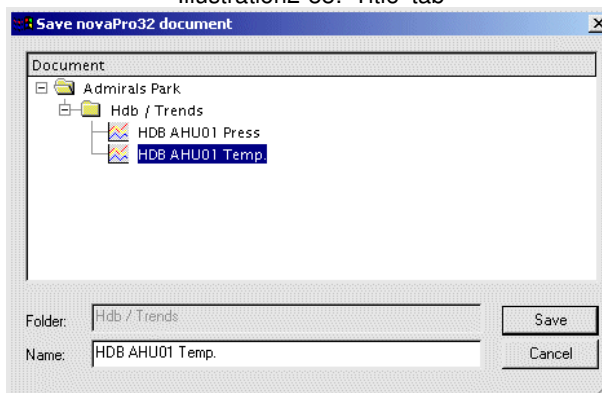
Illustration2-89: 'Save' dialogue box

Please note: No data (such as measured values, status, etc.) are saved. Only the configuration (address selection, address presentation, time slot and title) is saved.

2.5.6.2 Open HDB/Trend

To open a saved HDB/Trend configuration, use the 'File | Open ➜ HDB/Trend' menu or the 'Open' icon in the icon bar, or double-click with the left-hand mouse button on the relevant file in the novaPro32 Document Browser.
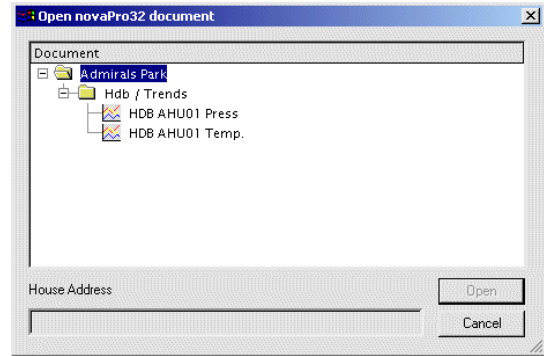
Illustration2-90 List of configured HDBs

An HDB/Trend file of this sort does not contain any data. The file only contains the settings made in the Properties window, such as the address selection, type of presentation, time slot, etc. After the file is opened, the data are read by the HDB server and the automation stations.

Frame: Titelzeile mit Legende

Frame: Grafik

Adress-Tooltip

Frame: Tabelle
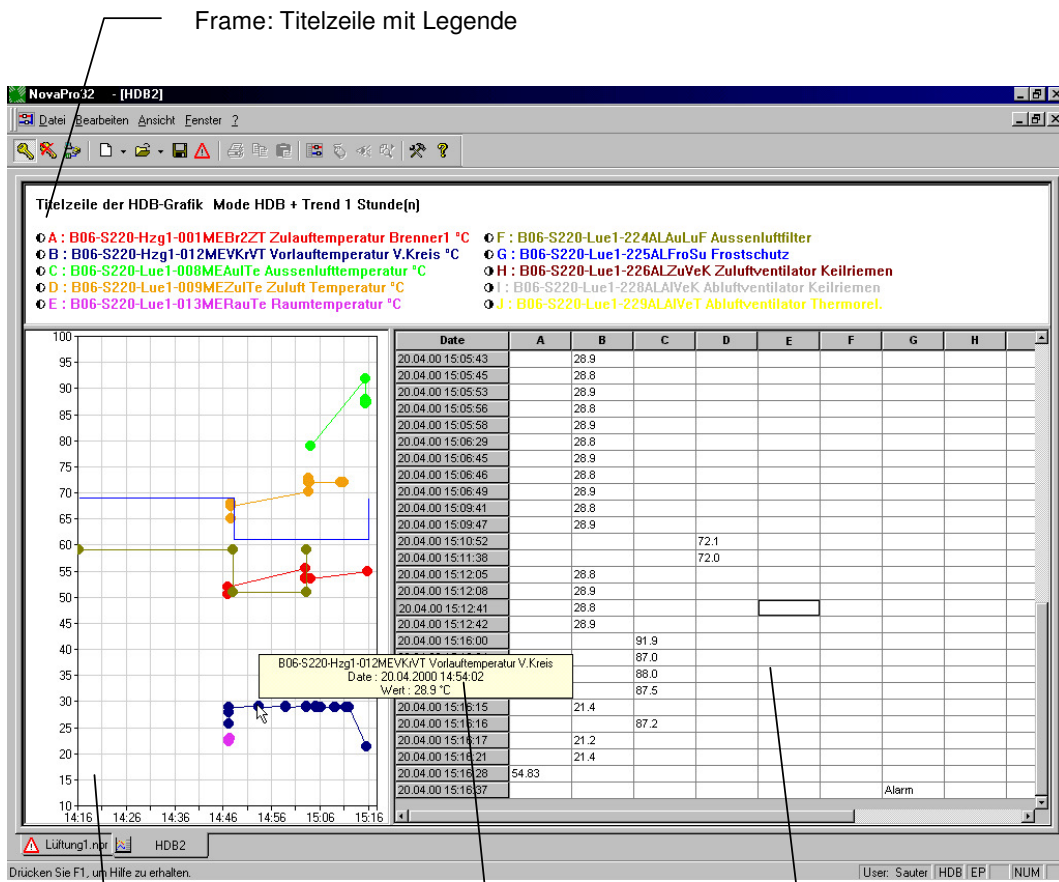
Illustration2-91: HDB / Trend as graphic and table

2.5.6.3　Working with HDB/Trend

Frame edges:
You can adapt the presentation of the HDB/Trend window to your individual require-ments. To do this, keep the left-hand mouse button pressed down and drag the frame edges to the positions you want. When you close the HDB/Trend window, you can save the window configuration you set, so that the view you want is shown immediately when you call the window up later on.

2.5.6.3.1　Edit graphic zone

Zoom:
You can enlarge a graphic shown in the left frame as you wish, to view it in detail. To do this, keep the left-hand mouse button pressed down and mark the section you want. The marked sec-tion will immediately be shown in enlarged view.

| Zoom OUT |
| Zoom OUT + |
| Copy |
| Save as BMP |
| Save as JPEG |
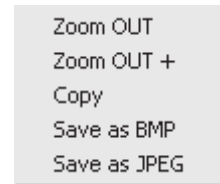
Illustration2-92

The 'Zoom Out' command in the context menu reverses the last zoom action – in other words, you return to the previous view.

Tool tip: View the house address, the value and the time of origin of the chosen value on the curve (break point of a curve or entry point of a stepped connection; see Illustration2-86: 'Address Presentation' tab).

Copy:

The 'Copy' function in the chart and table context menu allows data exchange with other programmes.

'Copy' in the chart context menu places a copy of the graphic on the Windows clipboard. This enables you to paste and edit the graphic in another Windows program.

'Copy' in the table context menu copies the table cells you have just selected onto the clipboard. This makes it easy to paste the data into Microsoft Excel where you can con-tinue editing them.

2.5.6.3.2　Edit table sector

Copy: With the aid of this context menu, you can paste a se-lected number of lines into another document (e.g. in Word) via the clipboard.

| Copy |
| Export |
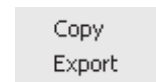
Illustration2-93
Context menu -
table sector

Export: This makes it possible to save a table of values (shown on the screen) as a .txt file under a defined name.

Information:
To ensure that further processing of exported values tables is efficient, we advise you to use a monitoring and optimisation tool such as **EY3600 novaPro EBal**.

2.5.6.3.3 Edit title and legend sector

Export & print-out: With the aid of this context menu, you can print out and export the graphic with the title and the legend (see Illustration2-95).
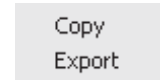
EY3600 novaPro32

Header of HDB graphic

Mode BHD de 25.09.02 15:19:00 à 25.09.02 15:20:36
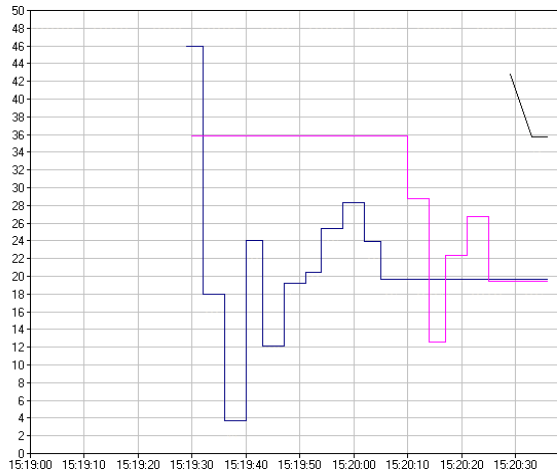
A : Splendid   -3-TM-00 T° Extérieure ℃ Pas de valeur
B : Splendid   -2-TM-00 T° Soufflage ℃ 12 Valeurs
C : Splendid   -2-TM-03 T° amb. (Salle) ℃ Pas de valeur
D : Splendid   -2-TM-04 T° amb. (Repr. Bas) ℃ Pas de valeur
E : Splendid   -2-TM-01 T° amb. (Repr. Gén.) ℃ 7 Valeurs
F : Splendid   -2-TM-02 T° Dép. Groupe Froid ℃ 3 Valeurs

Illustration2-95 Exported graphic

Note:
The exported file 'HDBview.rtf' is in the Sharable_Data / System directory.

Properties: can be used to adapt the parameters of the viewed HDB. (See also Section 57, Show new HDB/Trend)
The manual print-out of a graphic is always outputted on the Windows default printer.

2.5.7 Setting up users

novaPro32's functions are only accessible to authorised staff. A user identifies himself in the system with a user name and a password. The user name and password are used as an individual 'electronic key'.

The code word / password can be used to assign rights to users on an individual basis. Actions performed by the user are logged with his user name, making it possible to trace interventions in the system.

The **'File** | **Configuration** | **Generate password'** menu takes you to the overview window. Global settings (i.e. ones that are valid for all users) are made in the 'novaPro32 Password Generation' overview window.

If the password function is switched off, all users will obtain unrestricted access to all the functions in **novaPro32**.

Switch **Pre-login** and **Post-login** messages on or off.

Timeout: After the time adjusted an automatic logout appears and the **novaPro32** workstation will be locked.

If selected, access to **novaPro32** will be denied for 10 minutes after 3 invalid password entries.

Switch the password on or off.

User Status:
*: user logged in, now
X: suspended user

User List:
All users registered

Time and date of the last login.

Time and date of the last logout.

Illustration2-96: 'Password generation, novaPro32'

The overview window (Illustration 2-95: Overview window 'Password generation novaPro32'), contains a list of all the users registered in the system. It also shows which users are currently logged into the system (i.e. which ones are active), and when a user last logged in or out.

Information:
Only users with the 'Supervisor' or 'Password generation' authorisation can assign rights to other users, delete rights, set up or delete new users, or suspend/release users who are already registered.

Use the right-hand mouse button to go to the context menu for the overview window (see Illustration 2-97: 'Password Generation' context menu). From here, you can set up new user profiles and you can also modify or delete user profiles that already exist.
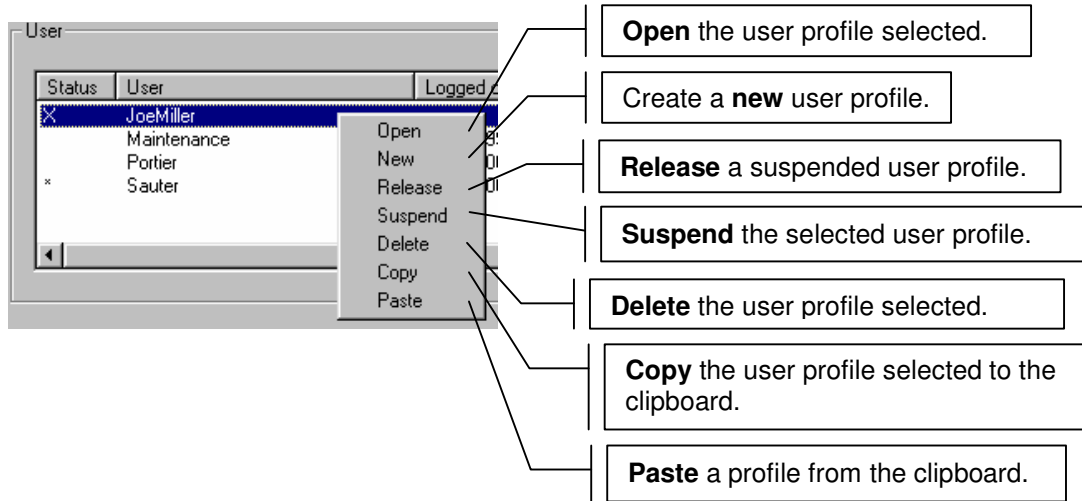
| | | Open the user profile selected. |

Create a **new** user profile.

Release a suspended user profile.

Suspend the selected user profile.

Delete the user profile selected.

Copy the user profile selected to the clipboard.

Paste a profile from the clipboard.

Menu options shown: Open, New, Release, Suspend, Delete, Copy, Paste

User list — Status | User | Logged
- X JoeMiller
- Maintenance
- Portier
- × Sauter

Illustration2-97:)

Switch **Pre-login** and **Post-login** messages on or off.

Timeout: After the time adjusted an automatic logout appears and the **novaPro32** workstation will be locked.

Switch the password on or off.

If selected, access to **novaPro32** will be denied for 10 minutes after 3 invalid password entries.

User Status:
*: user logged in, now
X: suspended user

User List:
All users registered

Time and date of the last login.

Time and date of the last logout.

Illustration2-96: Overview window: 'Password generation, novaPro32'

	Open the user profile selected.
	Create a **new** user profile.
	Release a suspended user profile.
	Suspend the selected user profile.
	Delete the user profile selected.
	Copy the user profile selected to the clipboard.
	Paste a profile from the clipboard.
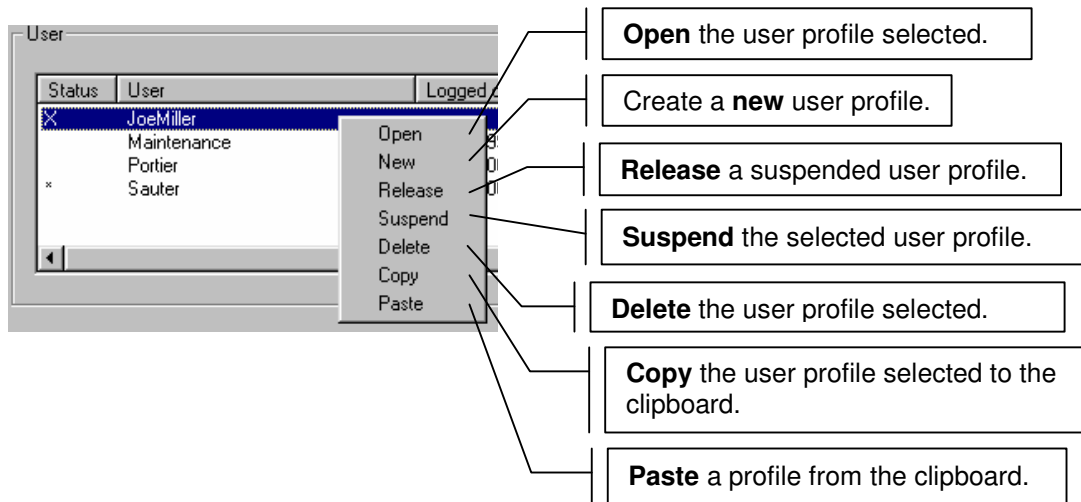
Illustration2-97: Context menu: 'Password generation'

2.5.7.1 Create a new user

- Use the right-hand mouse button to call up the context menu and select the 'New' command.
  You will see the 'Password properties' tabs.
- Specify the user profile with the help of the 'Password properties' tabs.

2.6 Options

2.6.1 Access to the novaNet network via modem:

You can use a normal commercial telephone modem to establish a connection between your PC and novaNet-Router EYZ291 via the public telephone network (see Illustration 2-98).[1]
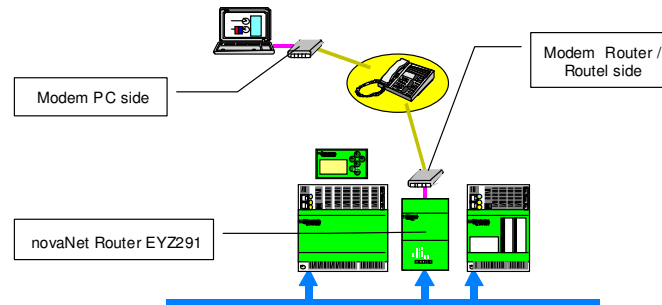
Illustration 2-98: Connection via modem

You can use the cable supplied with the modem to connect the novaNet router with a modem.

Depending on the **novaPro32** start configuration, the telephone connection to the AS network is established automatically, or else you have to make the connection manually via the 'File | Connections...' menu.

To make the connection manually, the 'Connections' dialogue will appear on the screen (see Illustration2-98).
Click on the 'Connect' button to establish a data connection with the AS network.

You can use the 'Close' button to terminate a data connection that already exists. **novaPro32** logs off the AS addresses and the modem terminates the telephone connection to the AS island.
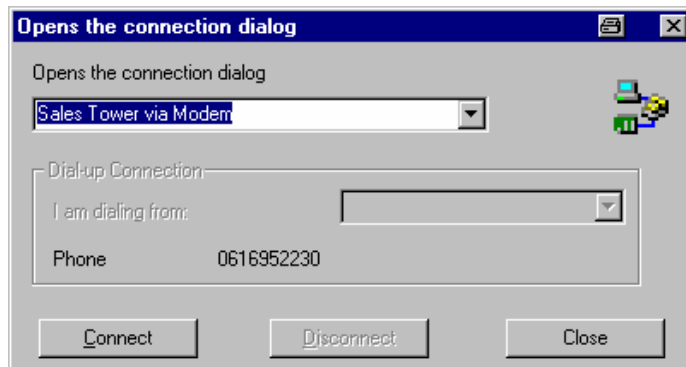
Illustration2-98: Establishing a connection with an AS island

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[1] Installation and configuration of the modem connection: see EY3600 novaPro32 Installation Manual. 7000915 001

2.6.2 Setting up an alarm (online messaging)

Online messaging covers the alarm and reporting system. Configuration is based on address groups and the type of event.

The reporting periphery shown in Table 1 is supported:

Table 1: Reporting periphery that is supported

Printer	Line printers supported by Windows such as Epson FX, etc.
Fax	Faxes can be sent via the MAPI fax client (Windows)
E-mail	E-mails can be sent via the MAPI e-mail client (Windows)
File	Messages are saved in a freely configurable text file. The file can be used as an interface with third-party providers' messaging systems.

2.6.2.1   Configuration

Menu (File | Configuration ➔ Online Messaging) opens the tabs for the configuration of the alarm and reporting system (see Illustration2-99).

Information:
When you configure online messaging for the first time, it is advisable to configure the 'Output medium' and 'Output template' tabs first.
Complete the configuration on the 'Assign output medium' tab by assigning an output medium and an output template to an address group.

Attention:
After the 'Online Messaging' configuration has been completed, you will need to restart. When you restart, the EP server is initialised with the new settings.

2.6.2.2 The 'Assign output medium' tab

The 'Assign output medium' tab comprises two sections:
1. Definition of the address group (logical group)

Meaning of the buttons:

New	Creates a new address group.
Open	Changes an address group that already exists (selected in the 'Logical group' field)
Delete	Deletes the address group selected.
Rename	Renames the address group selected.
Result	Shows all addresses defined by the group (see Illustration2-99)
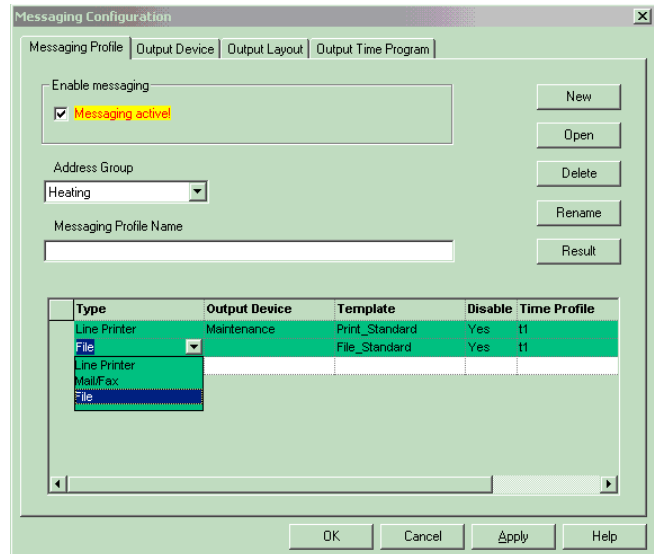
Illustration2-99: Assigning the output medium

2. Assigning the output medium and a template to an address group.
   Various output channels can be assigned to one address group with the help of an assignment table. An output channel consists of one line in the assignment table. Settings on the 'Output medium' and 'Output template' tables can be selected by mouse-clicking on the cells of the table.

Table 2:Meanings of columns in the assignment table

Type	Defines the type of the output device (line printer, e-mail/fax or file are available.
Output devices	Specifies the output device. You can select one of the pre-configured profiles on the 'Output medium' tab (see Illustration2-100 to Illustration2-111).
Template	Defines the precise format of the output. You can choose from the format templates on the 'Output template' tab.
Disable	An output channel may be disabled temporarily. Yes: Disables the channel No: Enables the channel.
Time profile	Select an EP time profile. The EP time profile determines when the selected reporting channel is enabled and when it is disabled.

2.6.2.3 The 'Output medium' tab

On the 'Output medium' tab, real devices such as printers, fax numbers, e-mail addresses, or paths and file names on data carriers can be assigned to all the available types.

The lower 'Select output medium' field lists all the output media assigned to the selected 'Output medium type'.

Depending on the preselected output medium type, the 'Edit' command button opens a configuration window.
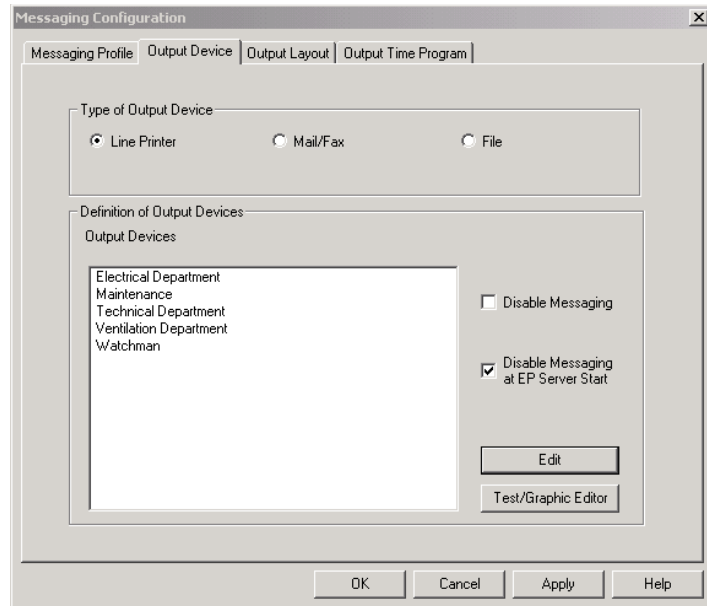
Illustration2-100: Defining the output media

Various output media can be selected using the buttons:

Online printer:	see Illustration2-106 and Section 2.6.2.3.1 Online
Mail/fax recipient:	see **Fehler! Verweisquelle konnte nicht gefunden werden.** and EY3600 novaPro32 Manual, Installation No. 7000 915 001
File	see Illustration2-115

If the' Disable data output' button was selected, no data are sent to the various output media.

If the 'Disable data output at EP start' button was selected, only those alarms that have reported since the system was started up are published. The messages that were edited before the application was closed are no longer published.

2.6.2.3.1 Online printer

Up to 5 Windows printers can be used with 'continuous paper' to print out the online messages.

Installing an alarm printer

Attention:
It is essential that you use a Microsoft driver (Win NT / 2000 or XP CD or Internet).

- Install a 'continuous form' printer in Windows System Manager | Printers. Select a line printer as shown in the example in Illustration2-101:
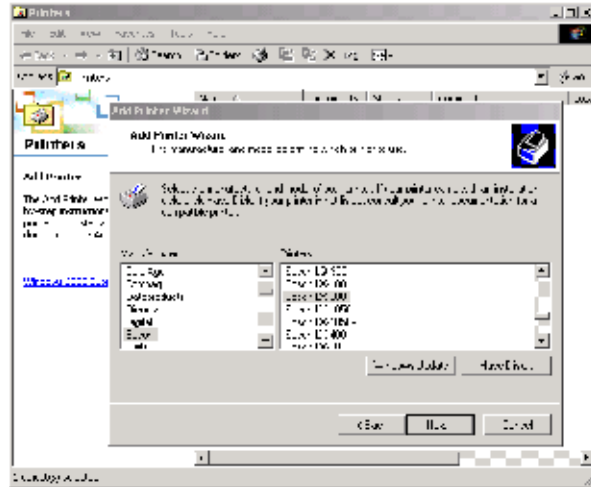
Illustration2-101 Selecting a printer in Windows NT/2000 and XP

- Name the printer (see Illustration2-102).
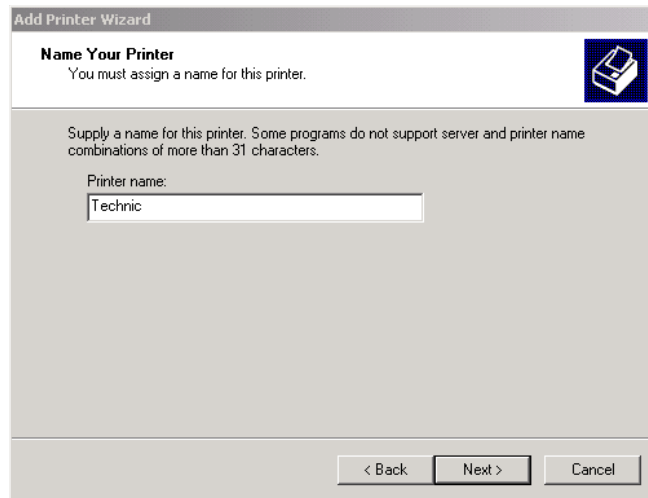
Illustration2-102: Naming a printer in Windows NT/2000 or XP

Specific settings

- In the 'Printers' window of the Windows System Manager, use the right-hand mouse button to call up the 'Server Properties' (see Illustration 7.4).

Attention:
Ensure that no printer is selected when you call up 'Server Properties'!
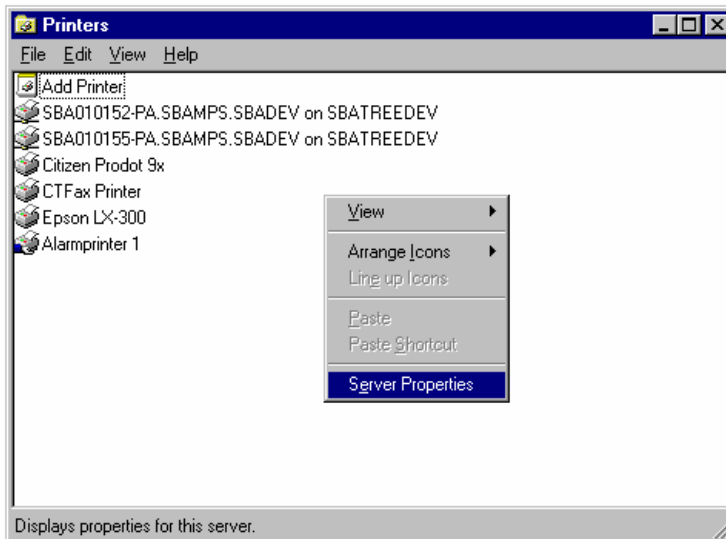
Illustration2-103: Calling up the 'Properties' of the Windows print server

The dimensions of the form must not exceed the margins/printable area of the printer, otherwise the form will not be available to the printer.

The paper source must be set as shown in Illustration 7.5:
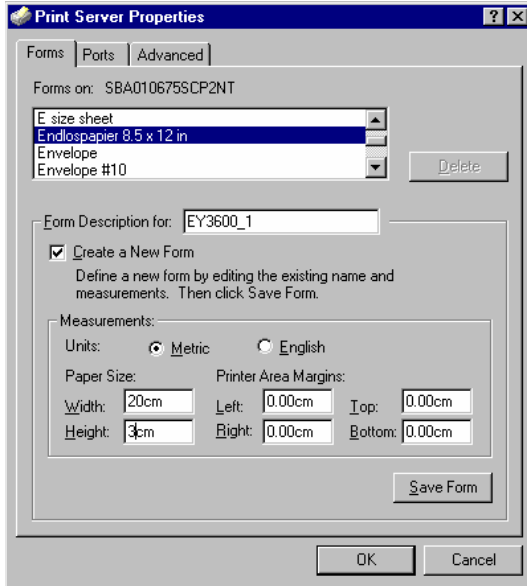
Illustration2-104 : Setting up a new paper format
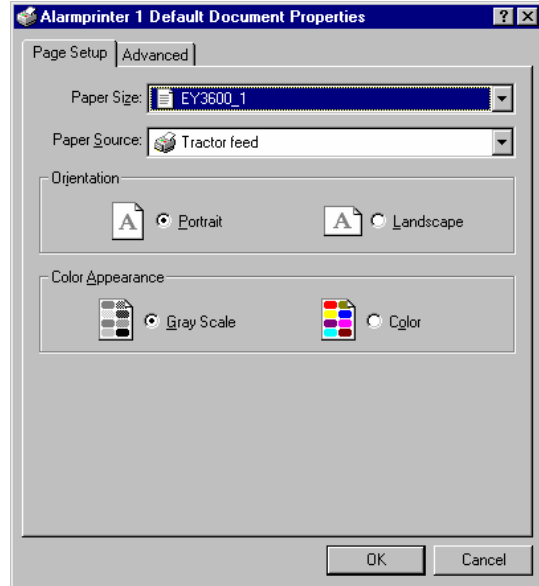
Illustration2-105 : Paper source in Windows NT/2000 or XP

- Configuration of the printer in **novaPro32** online messaging:
  See Section 2.6.2.3 'Output medium' tab.

Please check these points when carrying out the configuration:-
a) The printer adjustments for "Paper intake" and "Paper format"
   From the printer settings, select the paper format which you set up above (such as EY3600_1). At "Paper intake" select "Tractor intake".
b)   The "Paper intake" and "Paper format" in the Graphic Editor.

Defining an online printer

Depending on the output medium type you selected, all the assigned output media are listed on the 'Select output medium' zone (see Illustration2-100).

The 'Edit' button, see Illustration2-106 opens the configuration window.
The 'New' button is used to set the new output printer.
A network printer can also be assigned.
The printer selected in the list can be removed using the 'Delete' button' or amended using the 'Edit' button'.

Name of physical printer

Name given by user
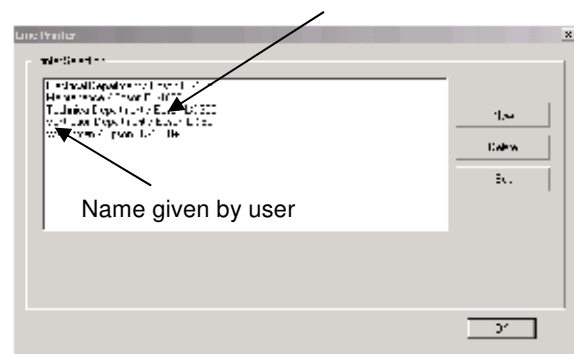
Illustration2-106 Online printers

Creating a new printer, e.g. 'Watchman'.
The 'New' button opens a window in which
you can enter a name for the printer (see
Illustration2-107).
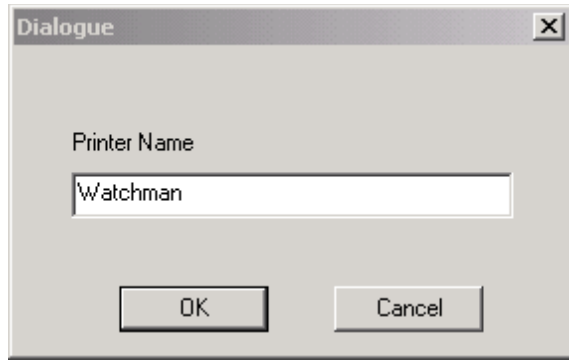
Illustration2-107 : Dialogue

On confirming with 'OK', the dialogue box
for choosing the relevant Windows printer
opens.
If you press the 'Select...' button, all the
printers installed in Windows are listed
(Illustration2-109).
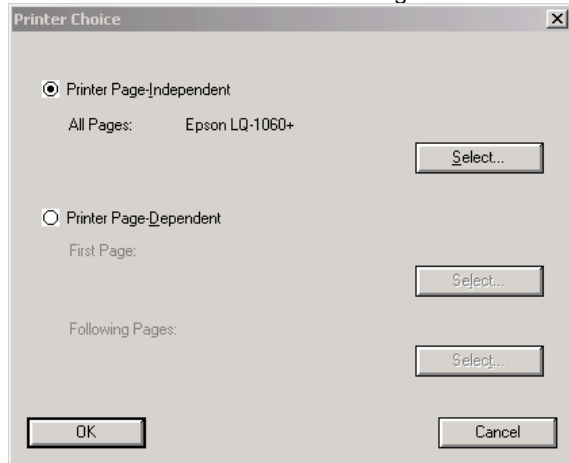
Illustration2-108 : Select printer

Attention:
For online messaging, it is essential that you choose the 'Printer Page-Independent'
mode!

All the printers installed in Windows are listed
in the picture, including network printers.
Press 'OK' to confirm your choice.
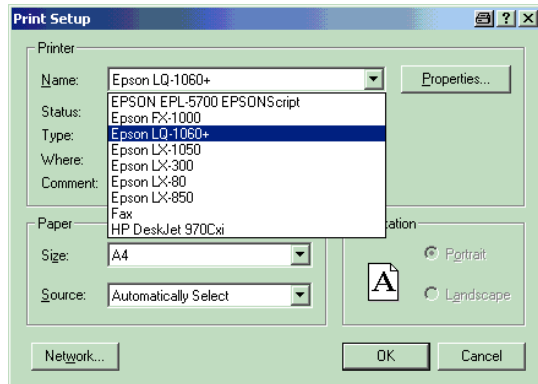
Illustration2-109 : Printer set-up

A physical printer that has already been cho-
sen as a protocol printer cannot be used a
second time, so it cannot be used as a line
printer at the same time.
A message appears in this case.
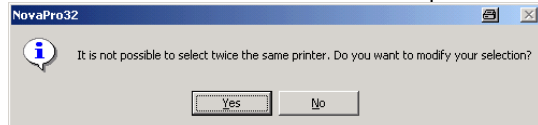
Illustration2-110 Double definition of a printer

The configured printer appears in the list (Illustration2-111).
All listed printers can be used as output media for the EP server.
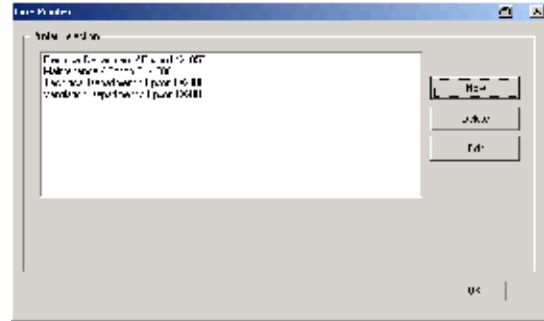
Illustration2-111 : Online printer selection

2.6.2.3.2   E-mail and fax recipients

On the 'Output medium' / 'E-mail recipients' tab, you will find the 'Selected output media' field where all e-mail recipients are listed. Configure recipients and senders in the 'Configure senders and recipients' window which you can open by clicking on the 'Edit' button:

- In the '**Senders**' field, enter the name and e-mail address of the sender. These two items of information are integral components of messages that are sent. The address must be in a form that is accepted by the Internet service provider.

- In the '**Outgoing e-mail server**' field, you enter the parameters for the SMTP server (address and port number). These data can be requested from the relevant Internet service provider. The default entry for 'Port' is 25.
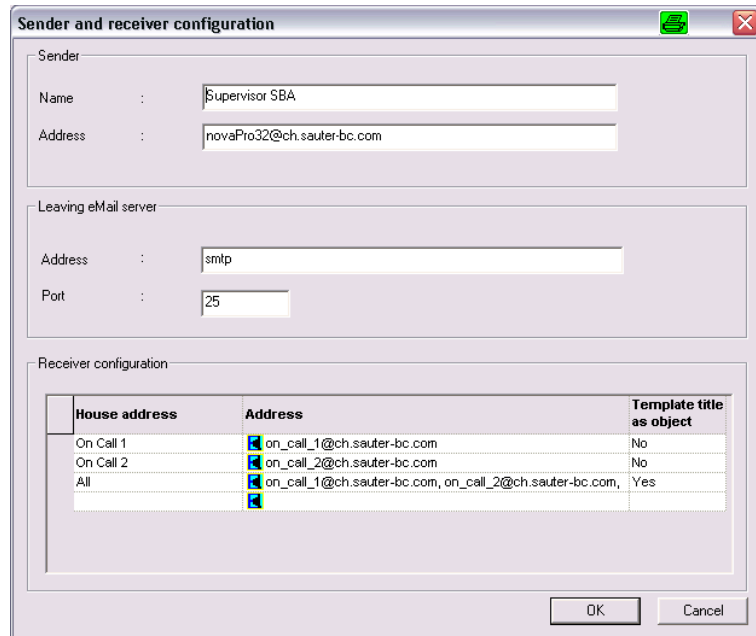
Illustration 2-112: Sender and receiver configuration

- In the '**Receiver configuration'** frame, all the configured recipients are listed.
The name may be freely chosen and may be allocated either to a single recipient's address or to a group of addresses. By clicking on the blue symbol in the 'Address' » field with the left mouse button, a new recipient may be entered with in the '**Contact address(es)'** window. The column 'Template title' allows the title of the send template (which can be edited) to be inserted as the 'Subject' of the message. With some Internet service providers the title as subject may be necessary for sending an e-mail

Illustration 2-113: Contact addresses

message by SMS or fax.

- **Testing the recipients' addresses:**
  By clicking on the recipient's name with the right mouse button, a test mail can be sent to the recipient via novaPro32 and the Internet service provider.
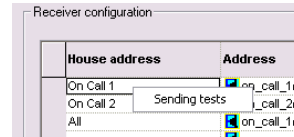
Illustration 2-114: Receiver configuration

2.6.2.3.3   File

All path and files for online messaging are listed in the 'File' configuration window. Left mouse-click on the blue icon in the 'Path' column to indicate a new path file name.
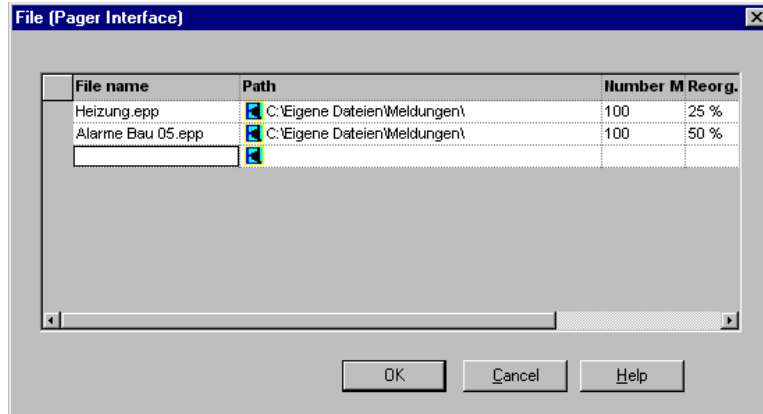
Illustration2-115: Set path and file name

The 'Number of Messages' column defines file size, i.e. the number of messages saved in the file (values allowed: 100 – 1000).

The 'Reorg.' column defines how the file is reorganised if the file reaches the size defined in the 'Number of Messages' column (values allowed: 25% - 75%). A value such as 25% means: if the file size reaches the number of messages defined, the oldest 25% of the messages will be removed.

2.6.2.4   The 'Output template' tab

An output template specifies which information is transmitted via the relevant signalling channel, and which form or presentation is used.

The 'output template' field lists all templates available for the selected template type.
The command buttons next to the list allow you to create new templates, and edit or delete existing templates.
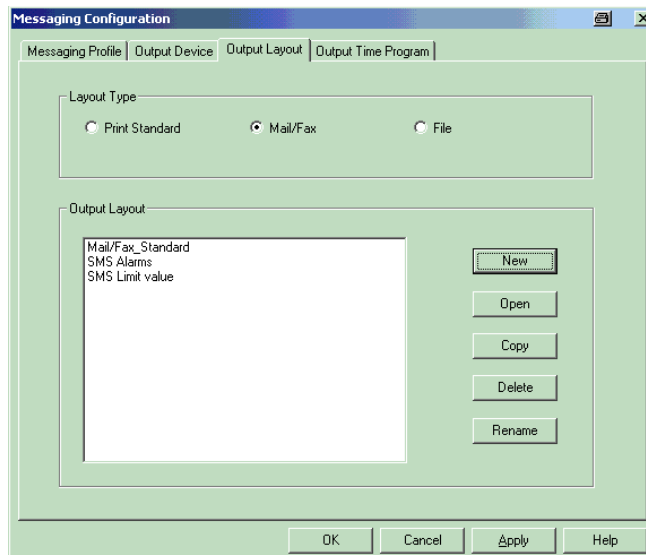
Illustration2-116: Definition of output templates

The windows for the configuration of a template consist of the 'Layout' and 'Line selection' sections (see Illustration2-117).

The' Layout' section comprises a table with entries as per Table 3 to specify the type of presentation for the message.

Table 3: Layout of a template

Column	Meaning
Message	Selects the events that trigger an entry in the form and therefore an online message.
Text	Defines the text background colour
Font	Defines font and size
Font settings	Set font and size
Additional Text	Defines any additional text that is sent with the message.
Additional File	Defines an additional file that is to be sent as an attachment with the e-mail.
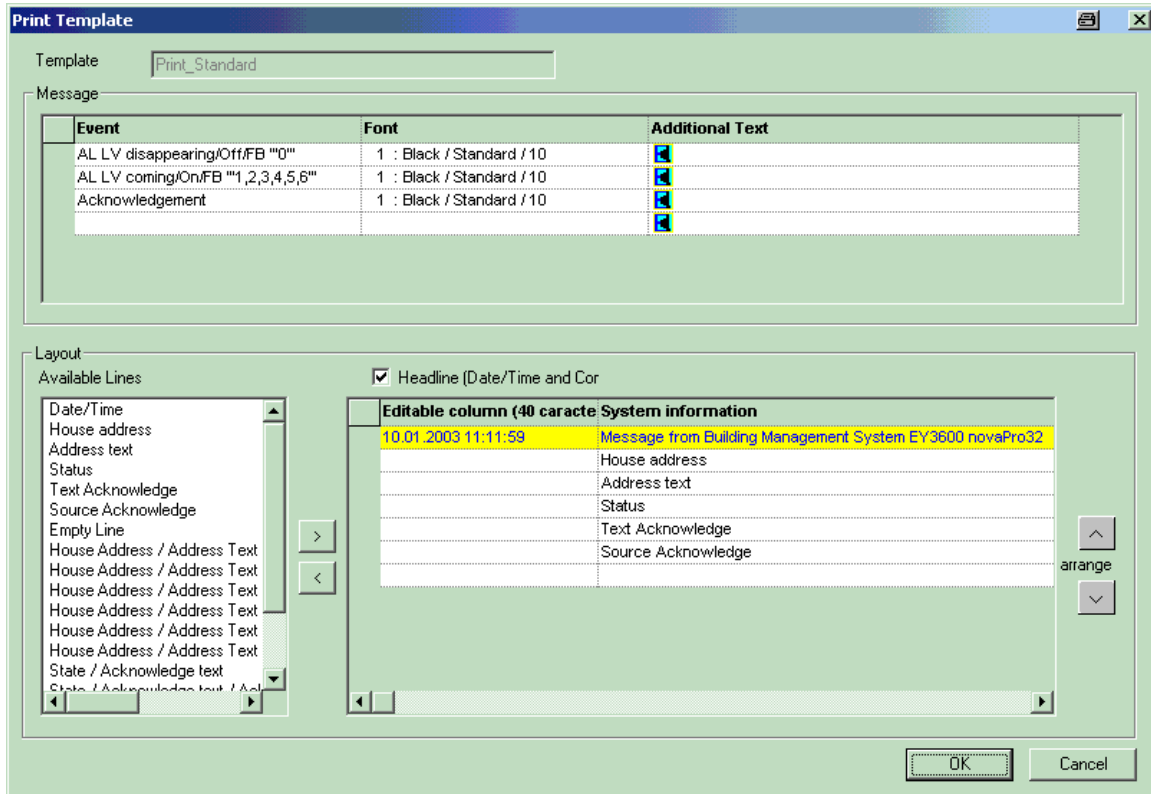
Illustration2-117: Configuring an e-mail / fax template

Left-click in a cell of the table, or on the icon at the left edge of the field, and a selection menu with all the possible entries for each field is shown, so the configuration of the table is self-explanatory.

The 'Line Selection' section defines which information is outputted with a message. The left-hand field, 'Available lines', lists all the information that can appear in the text of a message.
The right-hand field (Layout Presentation) shows the structure (layout) of a message with the selected information lines.

The '>' button copies a line from the list of available lines into the layout presentation.
The '<' button removes a selected line from the layout. In addition to the information se-

lected in this way, any desired comment can be added to each line. To do so, left-click a cell of the 'Editable column' and enter text of up to 40 characters.

Right-clicking the cells of the layout presentation will open a context menu to format the text in the selected cell.

The [∧] and [∨] buttons change the line order of a message to suit your own requirements.
The ☑ Datum/Uhrzeit bzw. Titel checkbox switches the yellow-backed title bar on or off.

The configuration of a file template is similar to the configuration for an e-mail/fax template, except that certain fields (such as Font, etc.) are not available.

2.6.2.5 The 'Output time profile' tab

The output time profiles allow time-controlled release of the messaging channels - so, for example, a message printer can be disabled while the operator is absent or the messages can be diverted to a private fax number at weekends.
Press the 'Edit' button to go to the configuration dialogue Illustration2-119.
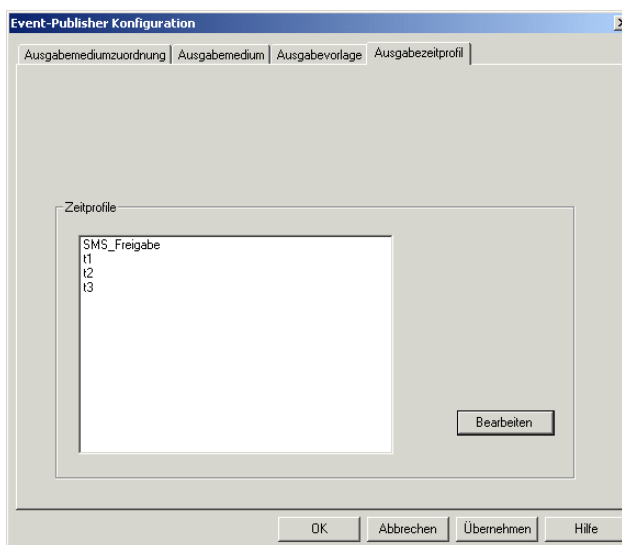
Illustration2-118: Output time profiles

2.6.2.5.1 Creating an EP time profile

In field ❶ you can choose all configured time profiles.
Right-click in zone ❷ to show the context menu.
Functions of the various buttons:
- '**Edit TPs**' Lets you create a new time profile.
- '**New entry**' Lets you create a new command line for the EP time profile.
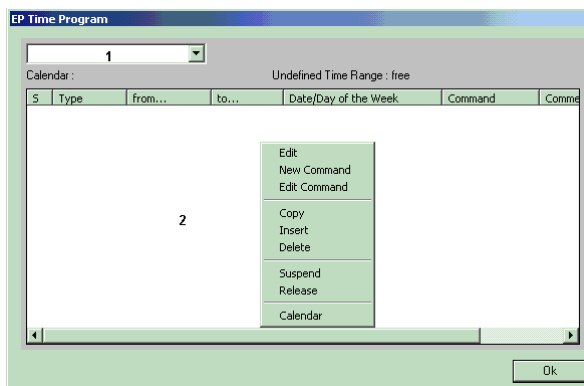
Illustration2-119 The output time profile

- '**Change entry**' Lets you edit an existing command line.
- '**Copy**: Lets you copy an existing profile and, using the 'Insert' button, copy it to a time profile selected from the list.
- **Delete**: Lets you delete the selected command line.
- **Suspend**: Lets you disable one or more command lines manually. The disabled task is marked with an 'X' in the 'S' column.
- **Release**: Revokes the suspension.
- **Calendar**: Lets you view and edit the assigned calendar.

3 DigiMaster

3.1 Configuration

The dataset for the **DigiMaster** Touch Panel is available in various alternative languages. To load the language-specific dataset, use the 'Touch Panel Configurator' (TPC).

3.1.1 Connecting EYT 250 to the PC

To enable transfer of the data created in the CASE TPC configuration tool into the EYT 250, a connection is needed between the PC and the control panel via an Ethernet interface and a crossed network cable.
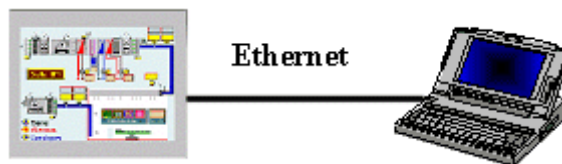
Plug the cable into the RJ45 socket. DB9 (RS232) is planned for the future.
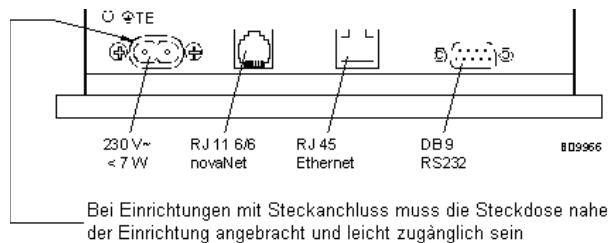
For communication with the EYT 250 Ethernet interface, the PC network card that is used must be set to a fixed IP address (see 3.1.1.1).
If you are also using the same network card within a LAN, note the current settings for your network card so that you can reset to the original settings after the EYT250 configuration has been completed.

3.1.1.1   IP address of the PC

This address is used to create the connection between the PC and the EYT250 so that the project created with the CASE TPC programme can be loaded into the control panel.
Procedure for adapting the PC's IP address:

1. Select the 'Network environment' icon on the desktop and right-click on it to show this window.

2. Double-click on the properties; the 'Network and RDT connections' window appears.

Illustration3-1:

3

3. Select the 'LAN connection' line and use the right mouse button to open the Properties window.
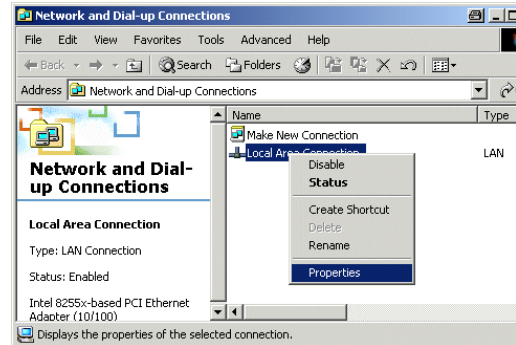
Illustration3-2:

4. Select 'Internet protocol (TCP/IP)'.

5. Select 'Properties'.

6. Enable the 'Use following IP address' option (see the illustration, bottom left).

7. Then enter IP address 192.168.10.1. Click on the subnet mask field to assign address 255.255.255.0 automatically.

8. Then confirm the parameters with 'OK'.
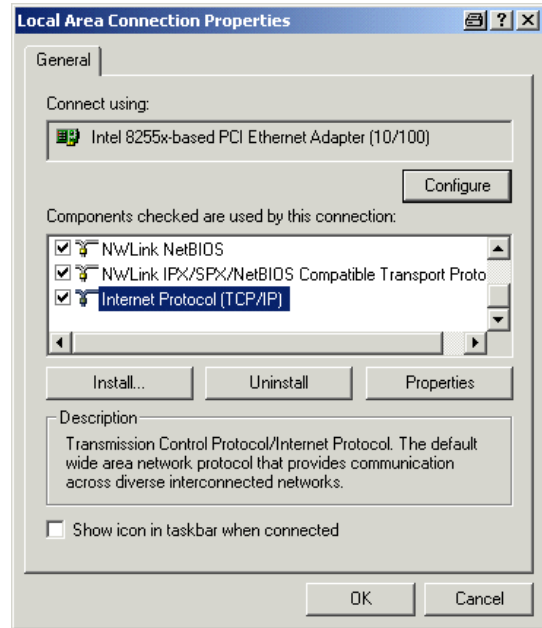
Illustration3-3:
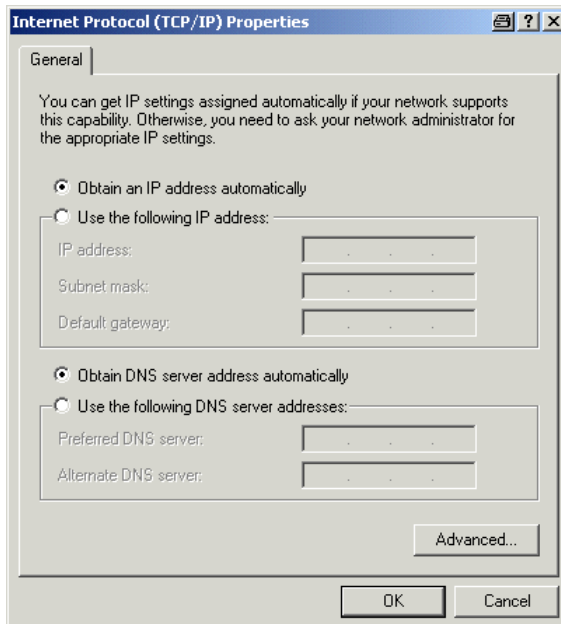
Illustration3-4:
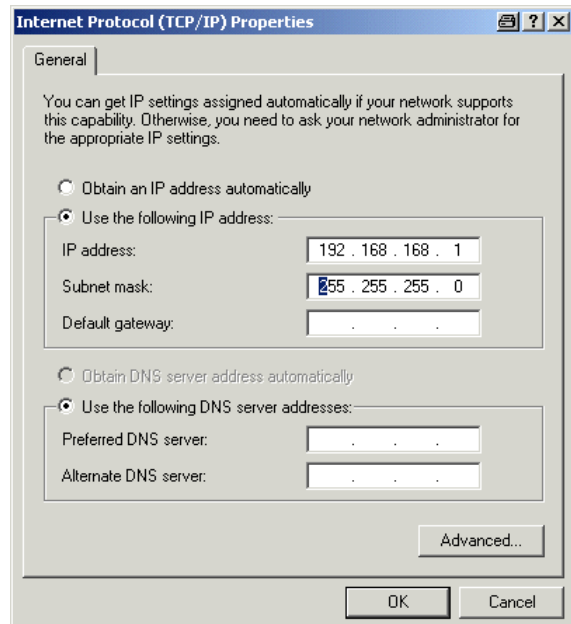
Illustration3-5:

There is no need to restart the PC in Windows 2000 and XP.

3.1.2 Open a language-specific dataset

Open the '**Project | Open**' menu. An Explorer window opens.
In directory
'**C:\DigiNet\Sauter\EY3600\Hoval_DigiNet_DN5_01\tpc**' select project '**Hoval Diginet DN5_xx.eyt**' in the language you want:
_ge   German
_en   English
_fr   French
_..   …
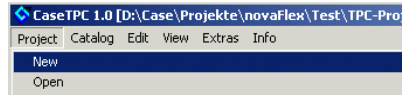
Illustration3-6

3.1.3 Write to EYT250

Write the dataset with the help of the 'Project | Write to EYT250' menu or function key F2.
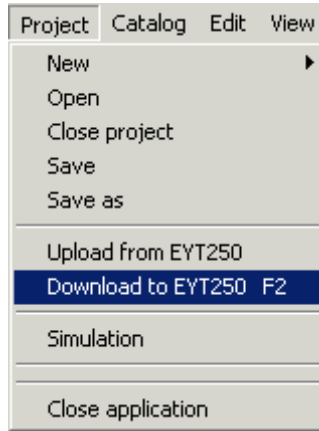
Illustration3-7

When you start the 'Write to ETY250' function, the 'Download files' window will open (Illustration 3-8).

for the download the following files should be chosen:
- "Script files" (.xml) to write the project data
- "System files" to create the application and/or plant filter, the AS filter, the definition of the PC address on the novaNet and to enter the calendar filter.
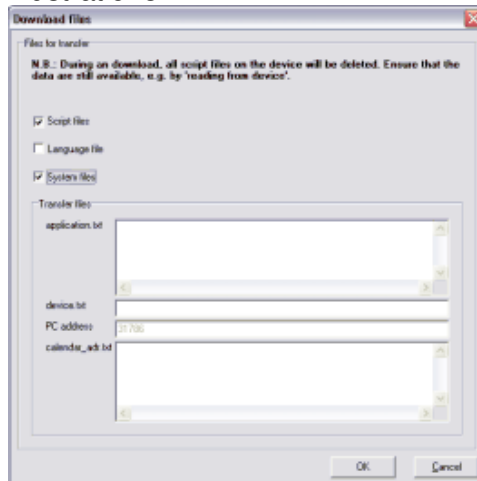
Illustration 3-8

Since the language data's are integrated in the project data's ("global.xml") the standard language file "global.txt" should not be chosen for the download.

During the download the write process is reported ().
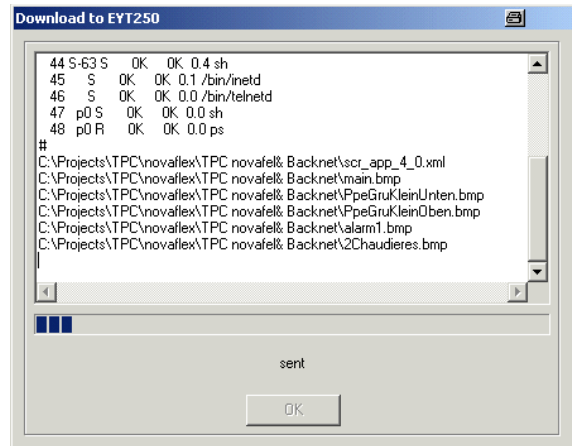
Illustration3-9

After data transfer has been successfully completed, the 'OK' button is enabled (). Press the 'OK' button to close the connection and complete the operation.
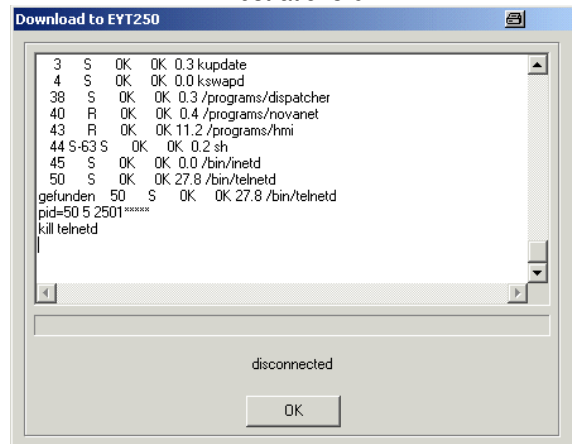
Illustration3-10

3.2 Operation

3.2.1 Main menu

After you have successfully connected and started the EYT250, the start screen is called up automatically. This contains the higher-level menu items for the control panel.

Application list

Title line

Settings

Login/logout with password
Status bar

Time

User logged in
or 'kNo user'
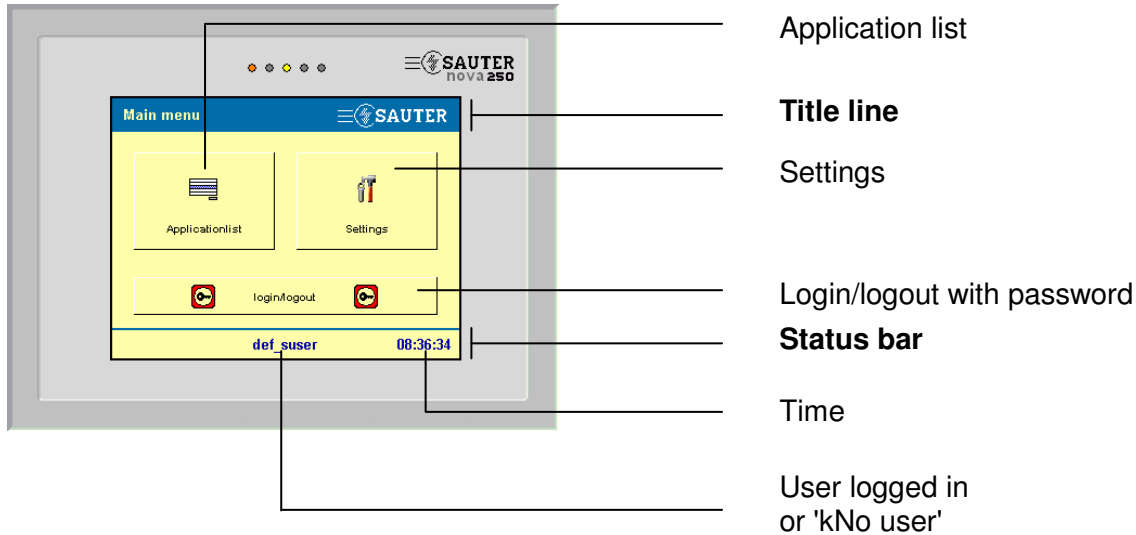
Press one of the three buttons to select the function you want:

- **Application list (Section** Fehler! Verweisquelle konnte nicht gefunden werden.**)**

    - select the desired automation station or plant

- **Settings (Section** Fehler! Verweisquelle konnte nicht gefunden werden.**)**

    - Calibration : calibrate the touch display

    - Display parameters: set the display contrast

    - Systeminfo : show current system settings and versions

    - Restart: restart Touch Panel software

    - Time: set the time

    - Profiles: create users

    - Filters: view, enable and disable filters

- **Login/logout (Section** Fehler! Verweisquelle konnte nicht gefunden werden.**)**

    - User login or logout

    - Change password

To visualise and change all the functions, you must be logged in as a user in the Administrator user group. See Section 3.3.7.

Click on the clock in the status bar to set the time if you are an administrator. Click on the area for the logged-in user in the status bar to log in or out.

3.2.2 Login, logout

Click on the login/logout button in the start screen to show a dialogue where users can log in or out. You can go to the same login/logout dialogue by clicking on the name of the logged-in user in the status bar.

The list of user names shows all users who are defined by the administrator in the Profiles menu. See Section 3.3.7.

In the original status, 2 users are defined with different access rights:

---------   No user, only allows operation of the panel (without password).
def_Admin   'Default Administrator', allows you to enter system parameters, setpoints, switching commands and time programmes (password: 654321).
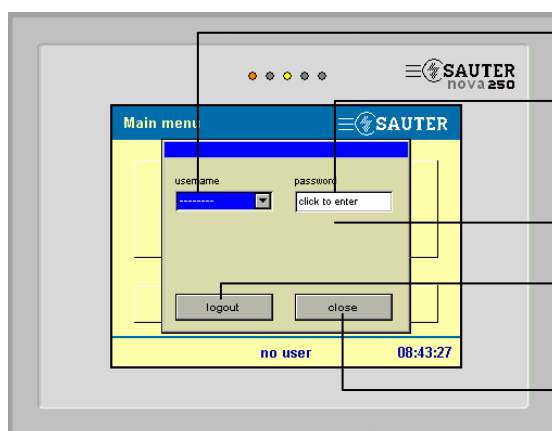
Dropdown *User name* list box to select the user

Password field to enter the password

The *Change password* button is only shown when the logged-in user is selected.

The *Logout* button logs off the current user.

The *End* button saves the entry and handles the login.

To log in, first select the user name from the list box and click on the Password box.

3.2.2.1   Enter password
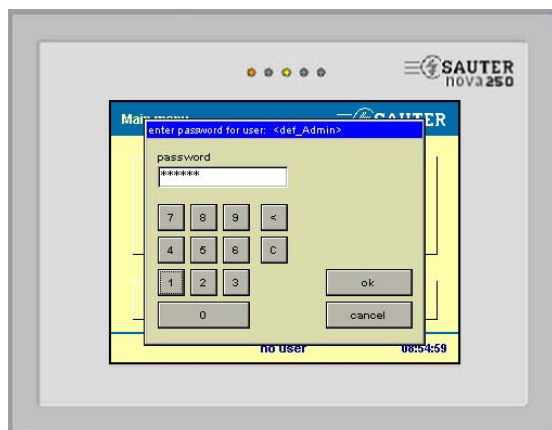
You are shown a numerical keypad with a request to enter your password.

Now enter the password. Confirm the password with *OK*; the user is logged in and you return to the previous screen. A red message shows whether the *Login was successful* (correct password) or *failed* (incorrect password).

Press *Cancel* to return to the previous screen.

3.2.2.2   Change password
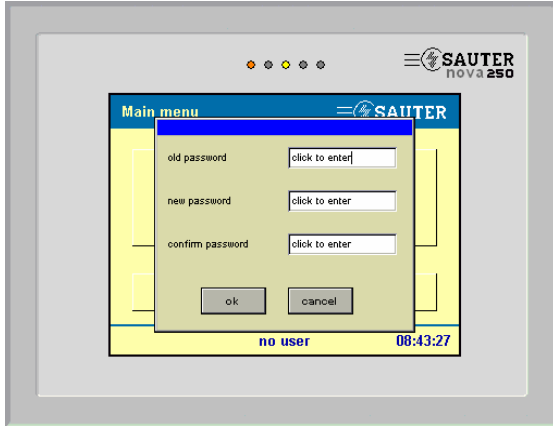
If you want to change the password, the user must already be logged in. The *Change password* button then appears.

Make these entries one after another:
- enter the old password
- enter the new password
- confirm the new password
- save with the *OK* button and return

Use the *Cancel* button to return to the previous screen without changes.

3.2.3 Application list

Touch the 'Application list' button on the start screen to show a list of all automation stations or plants that respond via novaNet and that meet the conditions for a filter, if one is set. (See Section 3.3.8 Filters).

Information: This list may have no more than 100 entries.
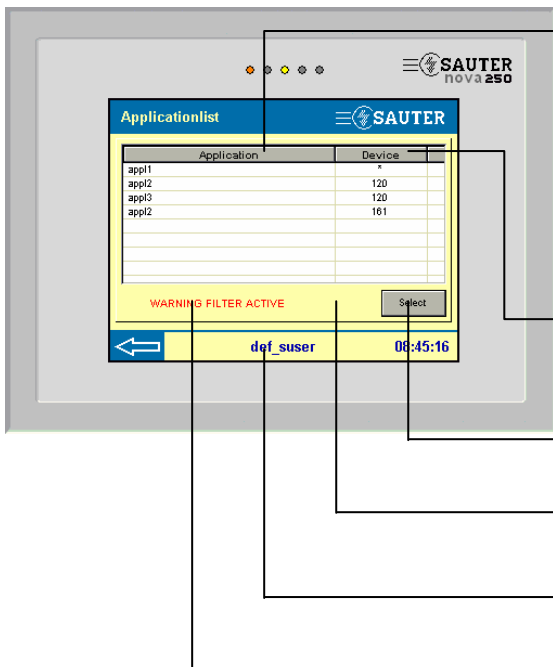
The *Application* column shows which applications or installations have responded. Depending on the definition in CASE FBD, this column shows the house address or, if there is no definition, the device + group address.

The *AS address* column shows the AS group address. If an installation is distributed over several AS, a * is shown.

Enable: the data are read into the EYT250 memory.

Update: the data are read into the AS of the EYT250.

The logged-in user is shown.

If a filter is enabled, a message is shown.

The time and the back arrow to go to the main menu are also visualised.

3.2.3.1 Choosing an application or installation

You can select the application or installation that has to be shown from the list.
Press the 'Enable' button to trigger loading of all datapoints and pictures that are assigned to this application or installation. The 'Enable' button ensures that all datapoints in the AS are read out. An application or installation that has already been read out once can be reloaded from the EYT250 memory with 'Update'. In this case, the only new items read are the values, status and alarms.
Two different types of visualisation are then possible.
If no project for this application or installation is stored in the EYT250, a datapoint list is shown. The Load window tells you: 'File (scr_app_x_x.xml) is missing'.
If a project for this application or installation is stored in the EYT250, the assigned picture is shown.

3.2.3.2 Send a command or value

All datapoints that accept remote commands or change values can be set manually.

After the address is selected, these windows are shown for binary values:

Automatic mode
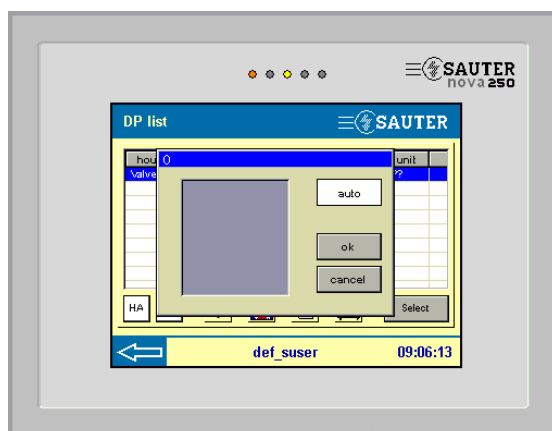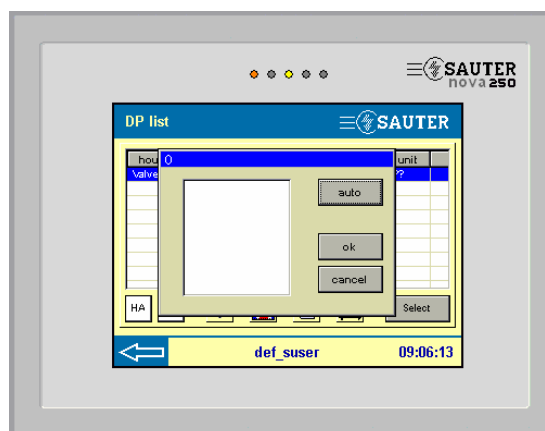
Manual mode

Press OK to close Automatic mode or Send command.
Use the Cancel key to return to the previous picture.

These windows are shown for analogue values.

Automatic mode
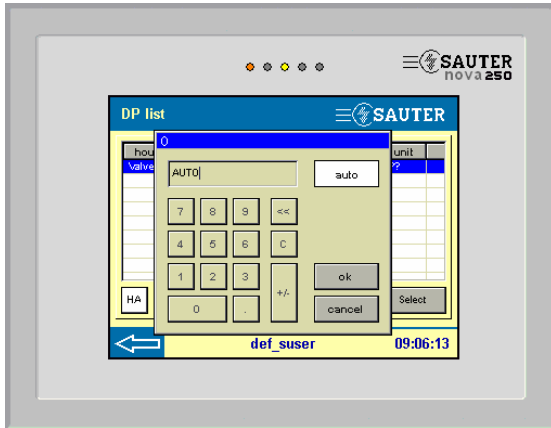
Manual mode
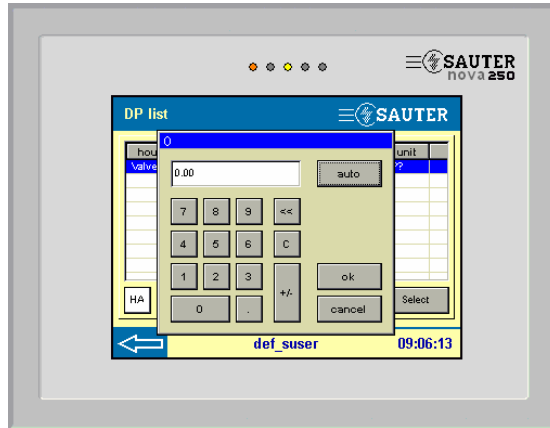
Press OK to close Automatic mode or Send value.
Use the Cancel key to return to the previous picture.

3.2.3.3   Visualise alarm list

Press the Alarm list button to open a window with a list of all active alarm datapoints in the active application.
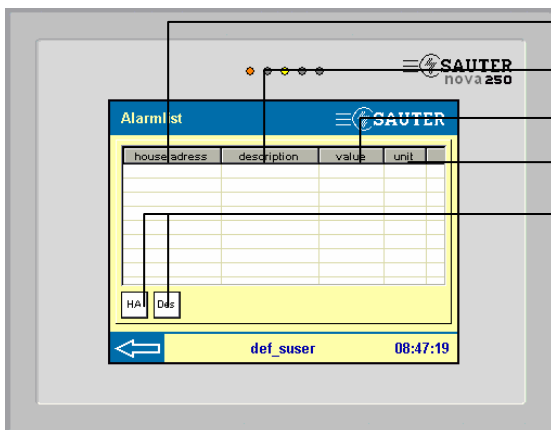
House address column

Description column

Value column

Physical variable column

The 'HA' and 'Desc' buttons allow visualisation of the house address and description columns, house address only, description only, or value and physical variable only.

Press on the names of the house address, description, value or physical variable columns to sort the lines alphabetically (forwards or backwards).
The time, the arrow to return to the application list and the logged-in user are also visualised.

3.2.3.4   Read or write time programmes

By pressing the time programme button, it is possible to visualise the existing time programme for specified datapoints, or to define a new time programme.
The first screen shows a list of datapoints that can be linked with a time programme.
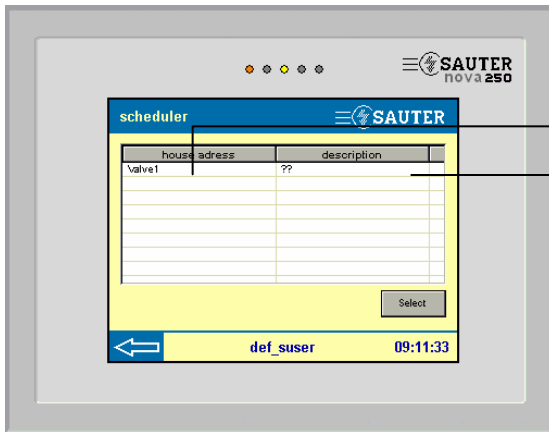
house address column

description column

Press on the name of the house address column or the description column to sort the lines alphabetically, forwards or backwards.
The time, the arrow to return to the application list and the logged-in user are also visualised.
To visualise or redefine the time programme, you must select the datapoint and enable it by pressing 'Select'.
This window is shown provided that the selected datapoint does not have a time programme.
If the selected datapoint has a time programme, the time programme is shown in graphic and list form.
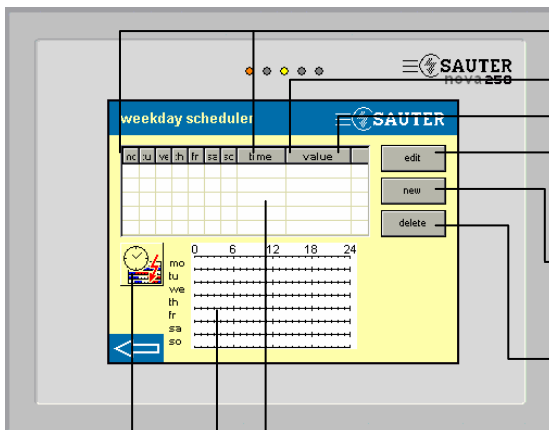
'7 days of the week' column

Time column

Value column

Edit button: this button allows you to change existing time programmes.

New button: this button allows you to create new time programmes.

Delete button: this button allows you to delete existing time programmes.

List showing weekly time programme

Graphic showing weekly time programme

Button to switch between weekly time programme and special day programme. Depending on its position, the weekly time programme or the special day programme can be visualised or created.

Press on the return arrow to prepare for writing the time programme to the AS. Three options are proposed: Send yes, no or cancel. If you press the Yes button, the time programme is sent to the AS.
After you press the Edit button (once you have selected the time programme) or the New button, you see this screen.
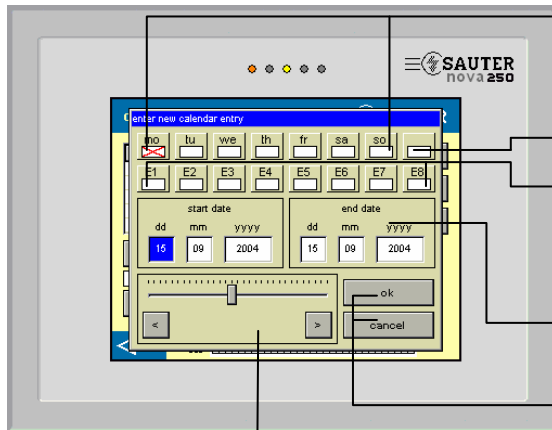
Days of the week, Monday to Sunday.
Click to select the days you want.

Daily: all the days of the week are selected.

Up to 8 special day programmes can be assigned to this time programme with the help of the calendar function.

Set switching times with bar or forward/backward keys.

Press the OK button to confirm the new or corrected time programme. The window with the graphic display will then be visualised. Press Cancel to return to the previous screen.

Value or status setting: click on the value, and the Value window or Setting command is opened. Set the value or command and confirm with OK. The new value is shown.

3.2.3.4.1   Read or write special day

When you switch over to the special day setting, this window will appear provided that no special day is defined:
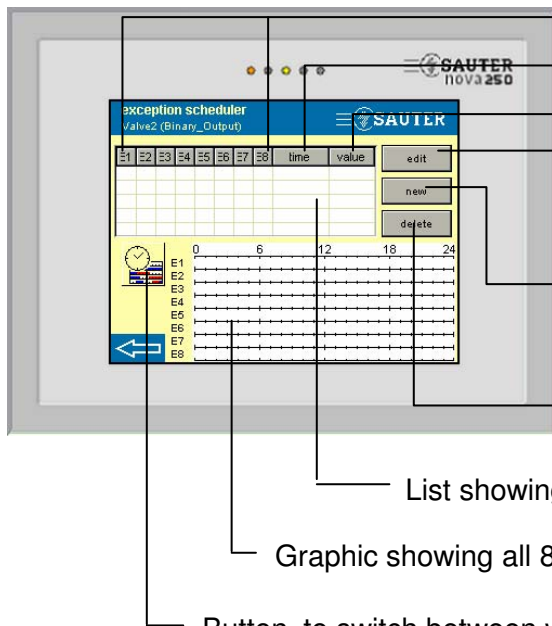
'8 special days' column

Time column

Value column

Edit button: this button allows you to change the selected special day.

New button: this button allows you to create the new special day. Important: only select the special day that has to be defined.

Delete button: this button allows you to delete the selected special day.

List showing all 8 special days

Graphic showing all 8 special days

Button to switch between weekly time programme and special day programme. Depending on its position, the weekly time programme or the special day programme can be visualised or created.

Press on the return arrow to prepare for writing the special days to the AS. Three options are proposed: Send yes, no or cancel. If you press the Yes button, the special days are sent to the AS.

After you press the Edit button (once you have selected the special days) or the New button, you see this screen:

Special days 1 to 8. Click to select the special day you want.

Set switching times with bar or forward/backward keys.

Press the OK button to confirm the new or corrected special day. The window with the graphic display will then be visualised. Press Cancel to return to the previous screen.

Value or status setting: click on the value, and the Value window or Setting command is opened. Set the value or command and confirm with OK. The new value is shown.

The special days you select in this way can then be enabled for specified days with the help of the calendar function.

3.2.4 Calendar function

Press the Calendar icon to show this window.
In this case, this station does not contain a calendar function
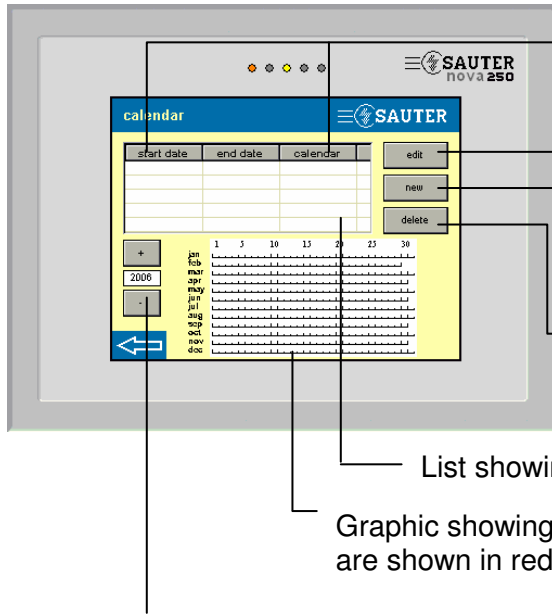
3 columnns are shown:
 start date, end date and special day no.

Edit button: this button allows you to change the existing calendar day.

New button: this button allows you to create the new calendar day.

Delete button: this button allows you to delete the selected calendar day.

List showing the active special days.

Graphic showing the active special days. The selected special days are shown in red.

+ and – buttons to select the yearly calendar. Special days can be defined 2 years in advance.

Press the return arrow to prepare for writing the special days to the AS. Three options are proposed: Send yes, no or cancel. If you press the Yes button, the defined special days are sent to all AS that are connected on the novaNet or to AS that are selected via a filter.
After you press the Edit button (once you have selected the special day) or the New button, you see this screen:
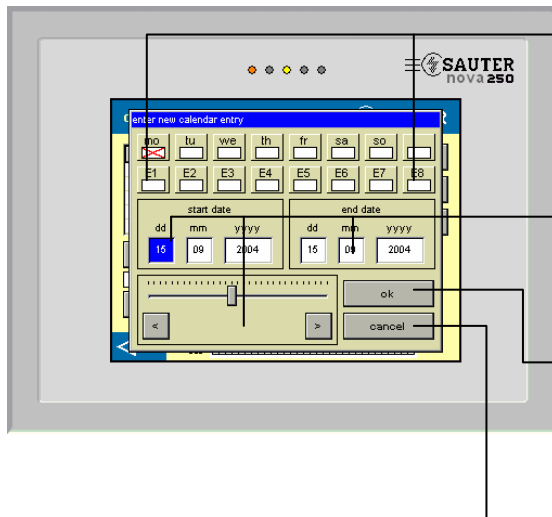
Special days 1 to 8 and days of the week. Click to select the special day or day of the week that has to be assigned to the datapoint as a special day.

Special day period selection with bar or forward/backward keys.

Press the OK button to confirm the new or corrected special day. The window with the graphic display will then be visualised.

Press Cancel to return to the previous screen.

3.2.5 Historical data

Press the historical data button to open a window with a list of all datapoints:
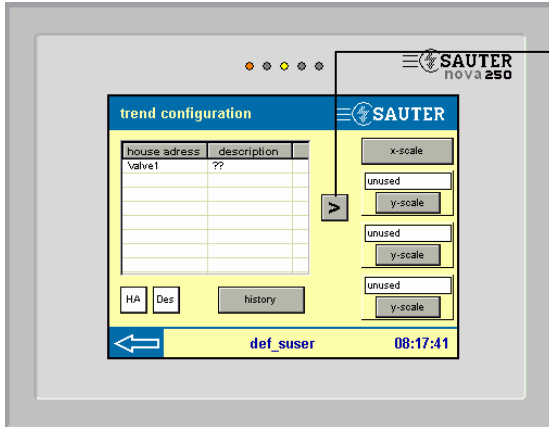
Select the datapoint and add it with the '>' button. Up to 3 datapoints can be added. When you add an analogue value, the Y-scale window opens.

The Y-scale buttons allow you to adjust the defined min. and max. values.
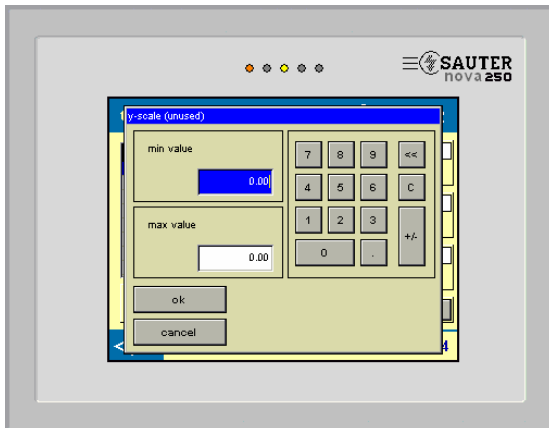
The Y-scale can be defined in this window with min. and max. values. Press OK to acknowledge the entry.
Press Cancel to return to the previous screen.
The Y-scale is not enabled for binary values.

Press the X-scale button to visualise this window:
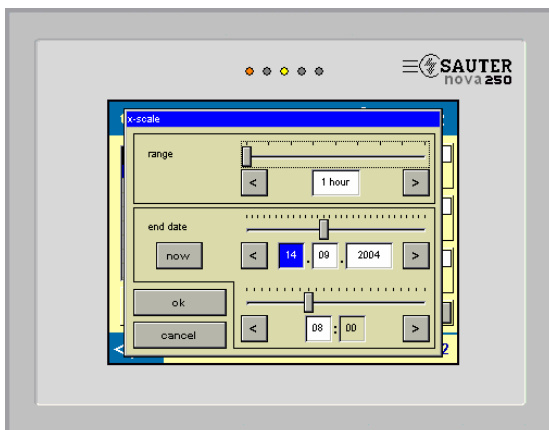
The X-scale can be defined in this window. Range: period of time that is visualised. You can choose from: 1, 4, 12 hours; 1, 7 days, 1, 3, 8 months, 1 year.
End date: the last entry that is visualised in the HDB (date and time). The Now button sets the current date.
Press OK to save the entries.
Press Cancel to return to the previous screen.

Press the HDB button to visualise this window:
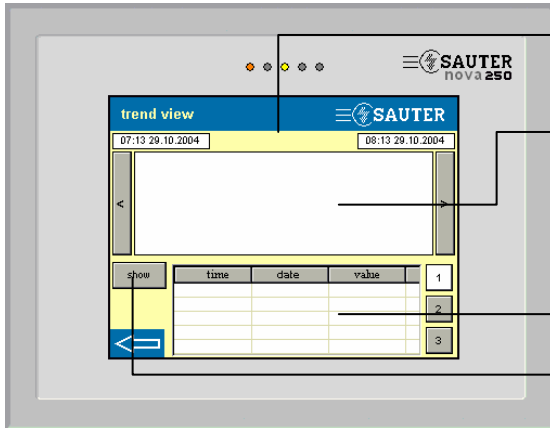
Three fields show the start date, house address and end date.

Field for graphic view of up to 3 datapoints.

Visualise up to 3 datapoints in list form. You can select the datapoint with buttons 1, 2, 3.

The View button shows the datapoint selected from the list in graphic form.

3.3 Settings

Press the Settings button to show this screen:
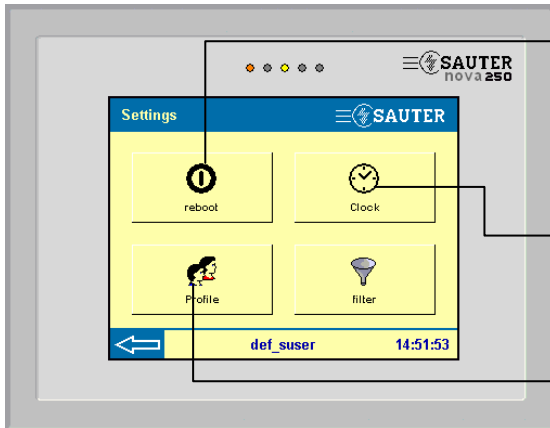
Calibration button. If a button cannot be correctly assigned to the action, a calibration has to be carried out.
Press the button and this screen is shown.

Display settings button: use this button to set the background lighting.

System info button: important system information can be visualised.

3.3.1 Calibration
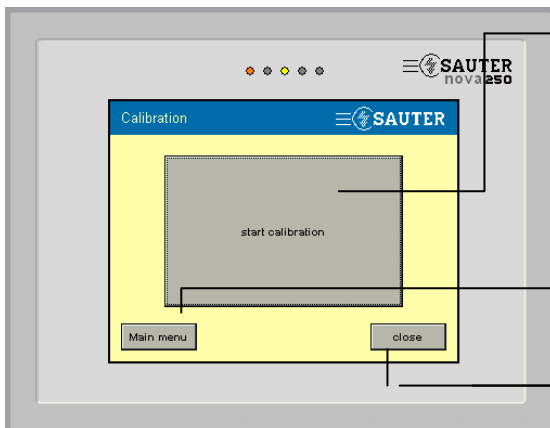
Start calibration button: this button allows you to change the existing calibration. After you press the button, click on the two corner points shown and the calibration will be performed.

Main menu button: this button enables you to return to the main menu.

Close button: this button closes the window being shown.
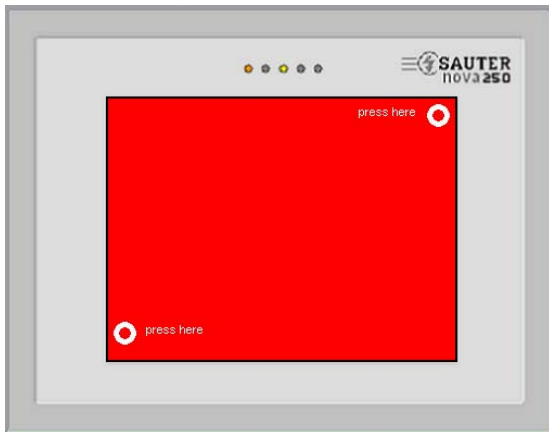
After calibration has been completed, it is important to check it.
Procedure:
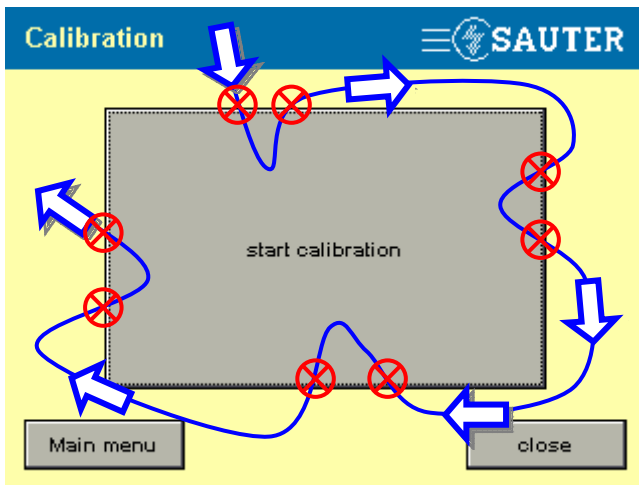
Press the area with your finger or a pen, and without interrupting the pressure, check the active zone for the start button (follow the arrow). If the zone is enabled exactly at the edge of the button, the device is correctly calibrated; otherwise, the calibration must be repeated until accuracy is achieved.

3.3.2 Display parameters

Press the Display parameters button to show this screen:
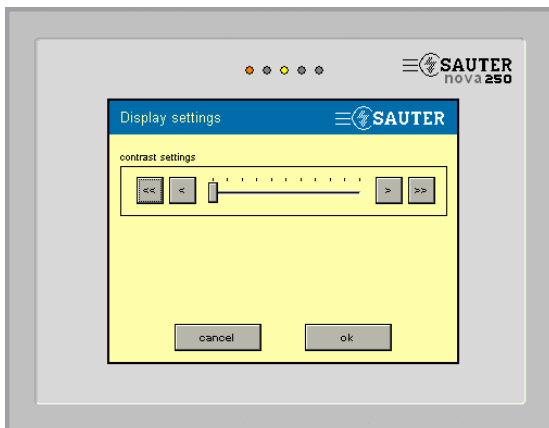
Contrast setting with bar or forward/backward keys.

Press Cancel to return to the previous screen.

Press the OK button to save the new setting.

3.3.3 System info

Press the System info button to show this screen:
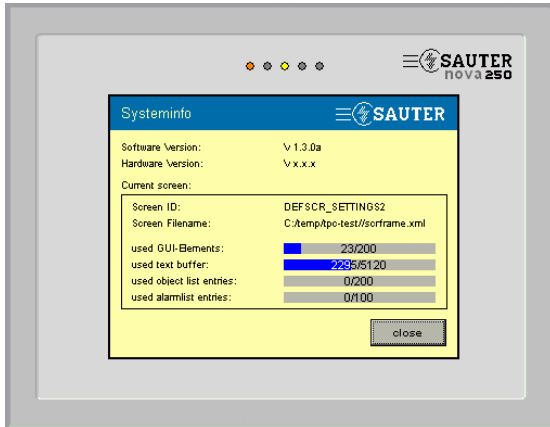
Press Close to return to the previous screen:

Hardware versions:
3.1.1	Color with HBD
3.1.2	Monochrome with HDB
XX.X.1	Color without HDB
XX.X.2	Monochrome without HDB

3.3.4 More settings

Press the More settings button to show this screen:
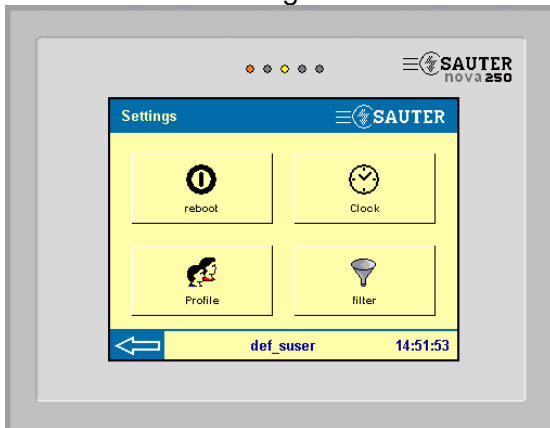
3.3.5 Restart

This button lets you restart the EYT250.
Press this button and you see a window where you can select OK or Cancel.
Click on OK to initialise the restart.

3.3.6 Time

Press the Time button or click on the time that is displayed to see this screen:
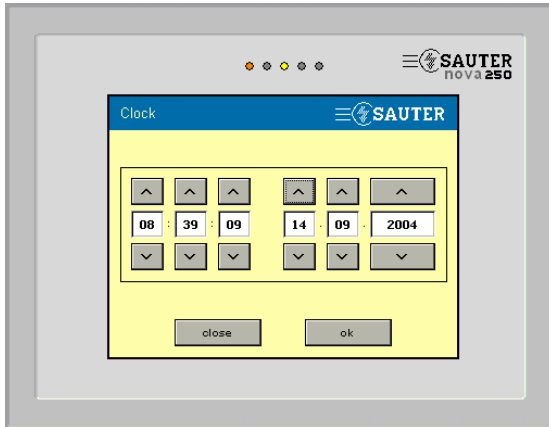
Use the forward/backward keys to set the time and date.

Press OK to transfer the time and date to all AS that are connected to the novaNet. Press Cancel to return to the previous screen.

3.3.7 Profiles

To be able to make changes in this window, you must be logged in as an administrator. Press the Profiles button to show this screen. A list of operators shows which operators are defined. Three buttons allow you to define new operators, delete operators from the list or change the login definitions. The logged-in operator can only define new operators; the Delete and Edit buttons are no longer visualised.
Touch the function you want to choose from four user groups:
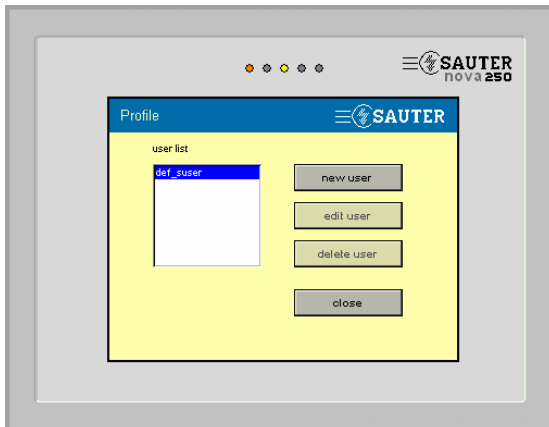
No group
only allows operation of the panel.
Guest
only allows operation of the panel.
User
allows entry of setpoints, switching commands and time programmes.
Administrator
allows entry of system parameters, setpoints, switching commands and time programmes.

New button :   use this button to create a new user.
Edit button :   use this button to change an existing user.
Delete button :   use this button to delete an existing user.
In the lower Timeout window, you can define the reset for the password.
Use the forward/backward keys to give you a choice of these options:
Timeout: never, 60min, 30min, 10min, 5min, 1min.
Acknowledge the selected setting with the Accept button. The timeout is then enabled for all defined users.

3.3.7.1 New

Press the Profiles button and then New to show this screen:
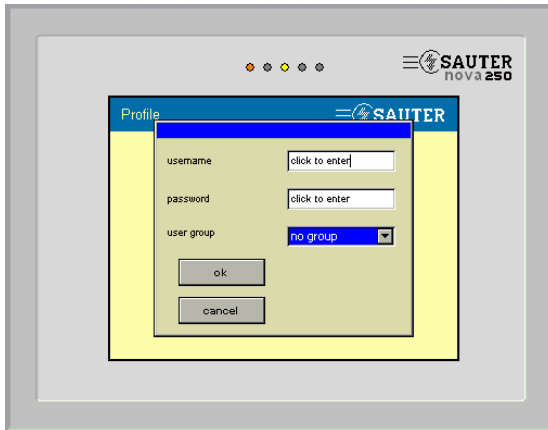
Click on the User name window to define a new user. The next screen appears.

Click on the password window to define a password for this new user.

Click on the User group window to define the relevant password level for this new user. The password for the assigned user group must then be entered.
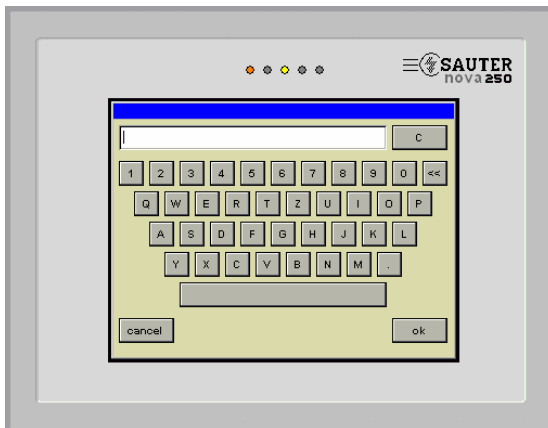
You can use the alphanumeric keyboard to define the new operator. 11 characters are allowed. Press OK to confirm, or Cancel to return to the previous menu.
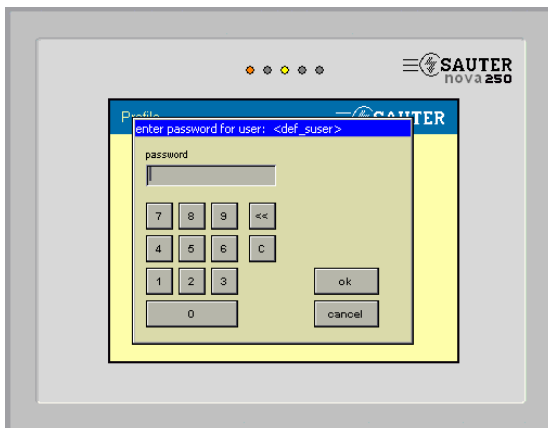
You can use the numeric keypad to define the new password. Press OK to confirm, or Cancel to return to the previous menu.
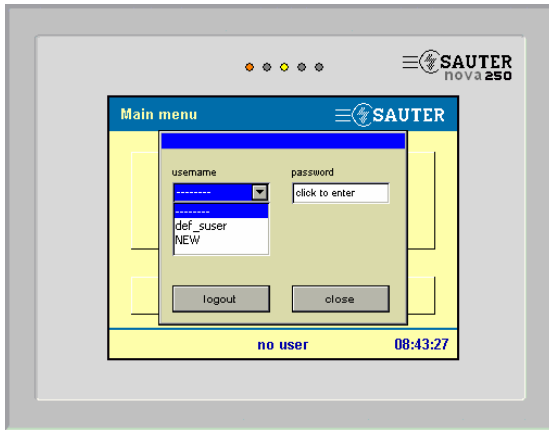
The newly defined operator then appears in the list of operators.
Press the Close button to acknowledge this entry.

3.3.8 Filters

Press the Filters button to show this screen:
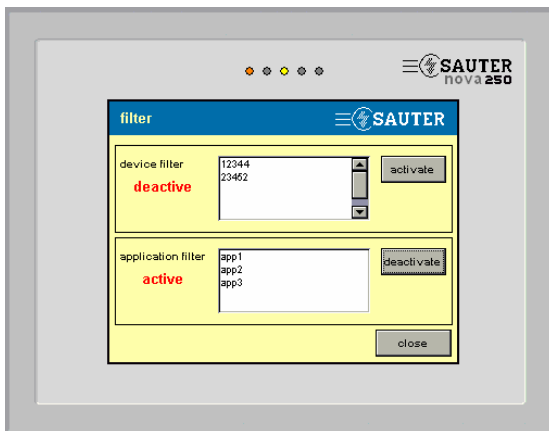
The active filters (AS or application) are shown on this screen.
You can enable or disable the filters in this window.

4 DigiEasy

4.1 Installation

6

B09191a

7

EYE 201, 202, 205, 206

⊥ ▽ △   0...10V
                  ▽
1 2 3

max 160m

4 3 2 1
4 3 2 1

B10454

8 **Standard**

AUTO ▽ ↕°C △
1 EA
2 RECN
3 OFF ◖ △

Hoval
made by SAUTER

B10936

a
b
c
d

Hoval
made by SAUTER

a
b
c
d

MV 506094 000

▽ ↕°C △

DigiEasy
DES Art.Nr.2 025 094

Hoval

▽ ↕ △

◖ △   ◖ △

◖ △   ◖ △

B10937
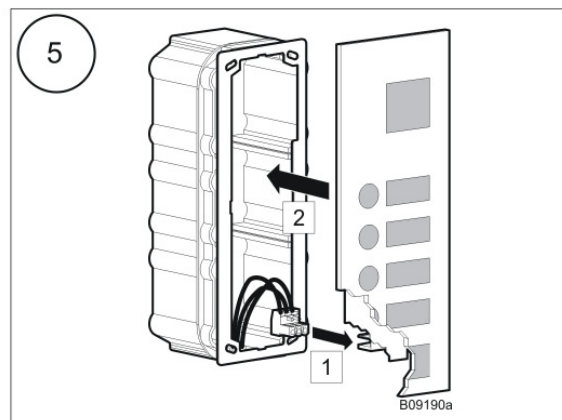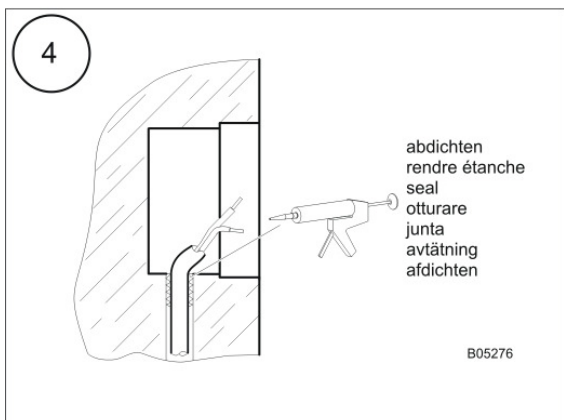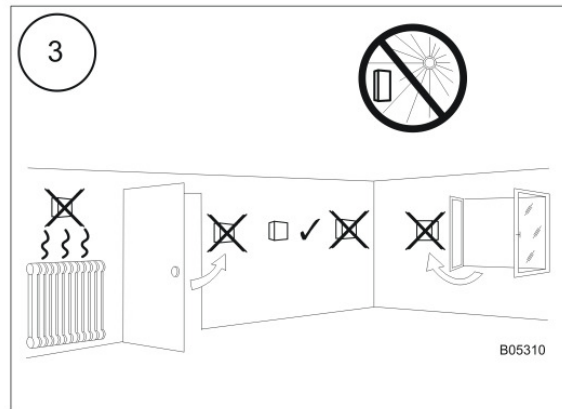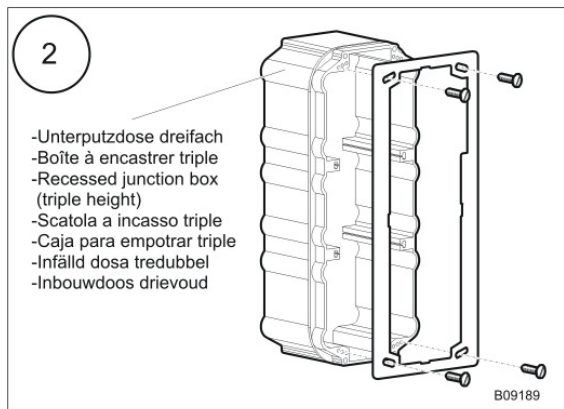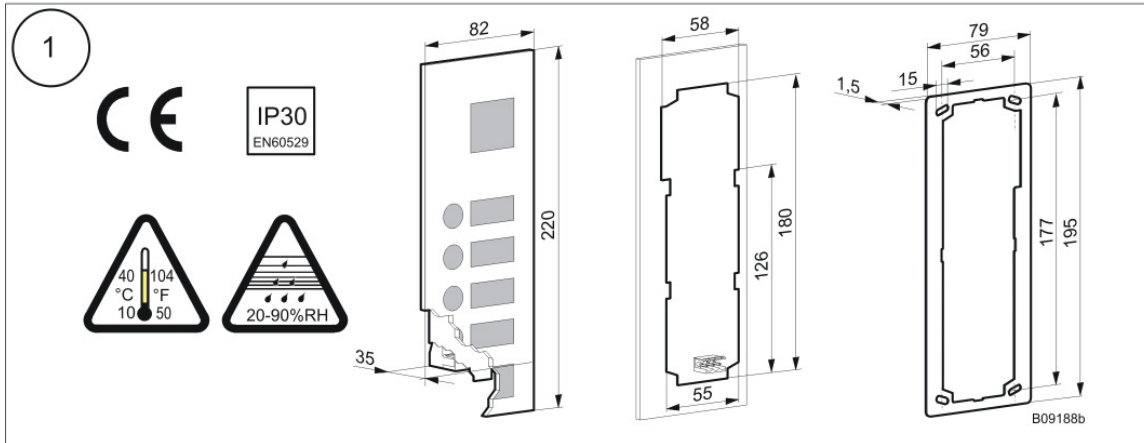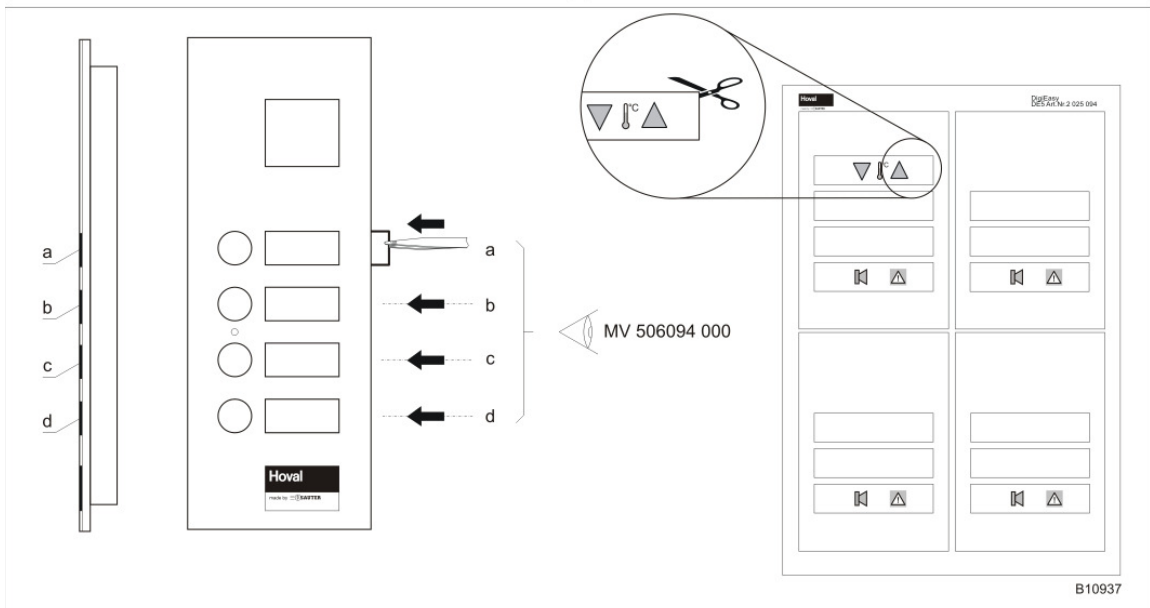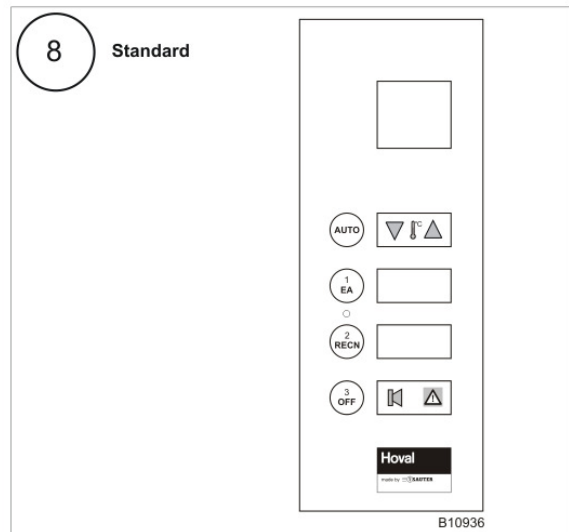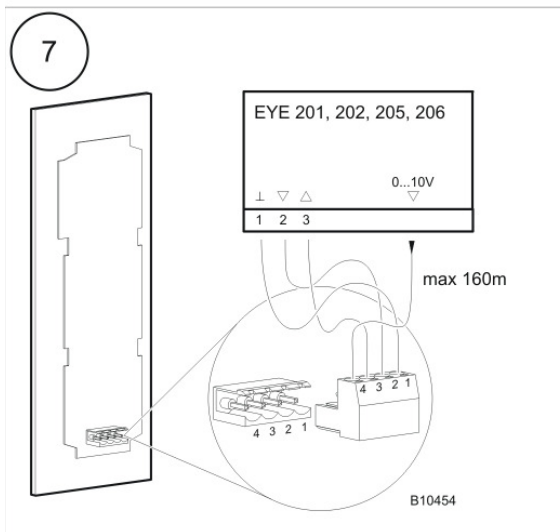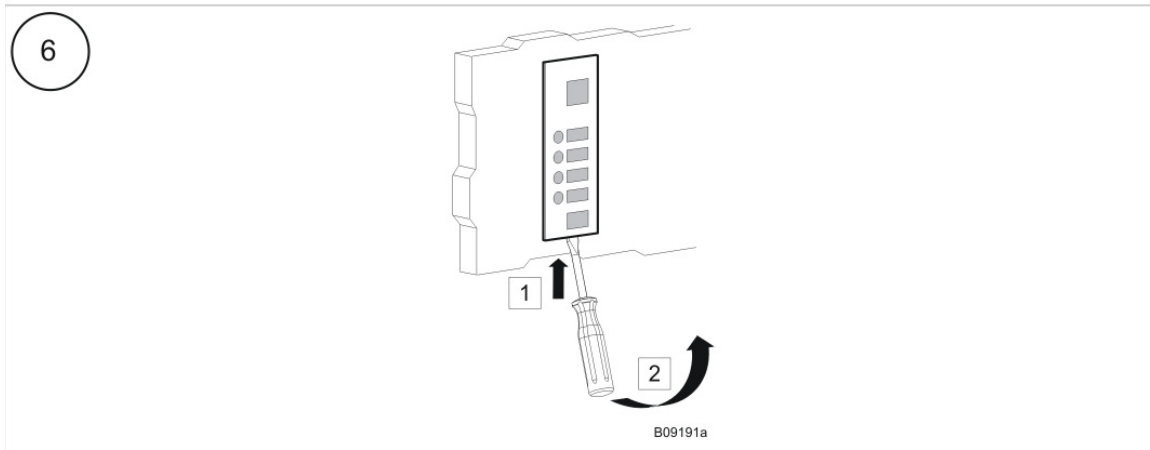
4.2 Configuration

See 2.4.3

5 Remote operation of DigiWeb

5.1 Configuration

5.1.1 Introduction

novaWeb is a preconfigured web server for the novaNet automation stations (AS). This section describes the basic steps to be taken when setting up novaWeb- i.e. how to connect it to the novaNet, which is then presented automatically as a web site, and how to connect it to the PC for any further configuration.

5.1.2 Connections

The connections for the novaWeb server correspond to a small single board PC. The following terminals are present on the back:
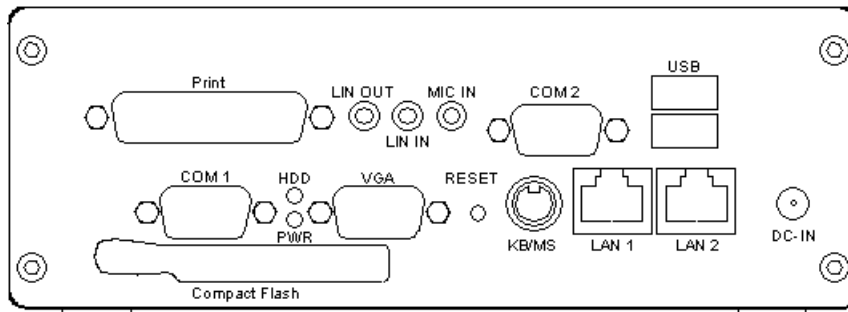
The most important connections are the following:

Terminal	Type	Cable	Connection
DC-IN		(included with Power Supply Unit)	Power supply
COM 2	DB9	RS232 zero modem cable	novaNet291
LAN 2	RJ 45	CAT 5 Ethernet cable	PC or LAN

5.1.3 Power Supply

Connect your power supply unit to the DC-IN terminal, switch on and check that the green LED on the front next to the power switch is on, or that the LED (labelled PWR) is lit on the back.

5.1.4 Connection to novaNet

5.1.4.1 RS232 connection to novaNet 291

For the connection to the novaNet, you need a novaNet291 router which must be set to a transmission speed of 38400 bits/s (only switch 3 to ON). The address of the novaNet 291 is defined by the novaWeb as 31777 so no other PC within the novaNet can use this address.

Connect the COM2 port of your novaWeb device to the COM port of the novaNet 291 via a standard cable (Sauter article number 386301 001) of type DB9 Zero Modem Cable.

5.1.4.1.1 Connecting the novaNet291 to the automation stations

The connection from the RJ11 port of the novaNet 291 to the novaNet devices is made with a twisted pair (TP) cable.

5.1.5 Ethernet

The LAN terminal (designated LAN2) can be connected in two ways:

- via a standard Ethernet cable to the hub

- via a crossed Ethernet cable, directly to the PC.
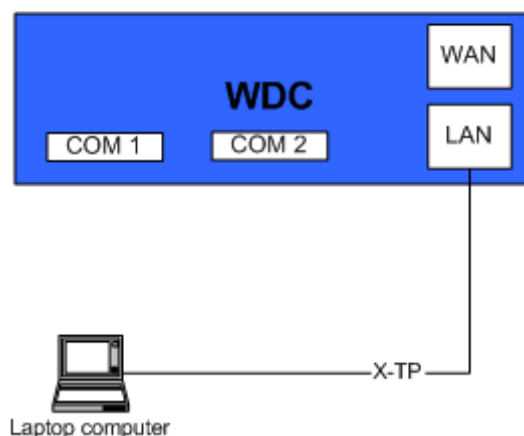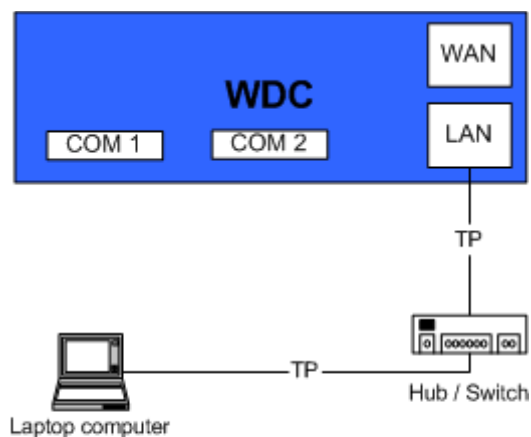
The status of the network connection can be checked via the LED on the LAN terminal: if the right-hand LED (green) is lit, the connection is OK. A blinking left LED (yellow) indicates data traffic on your network.

5.1.5.1 PC and Ethernet settings

5.1.5.1.1 novaWeb settings

Ex factory (on delivery) the LAN connection (LAN2 terminal) of novaWeb is set to the following values:
IP address: 10.10.10.11
Subnet mask: 255.255.255.0

5.1.5.1.2 Corresponding PC settings

To connect to novaWeb, you have to set the IP address of your PC to the same network. On the PC, this means you must set a different IP Address (e.g. 10.10.10.10) but the same subnet mask (255.255.255.0).
You can specify your LAN connection either via "Desktop / My Network Places /Network and Dial-up connections" or via "Start / Settings / Network and Dial-up connections".
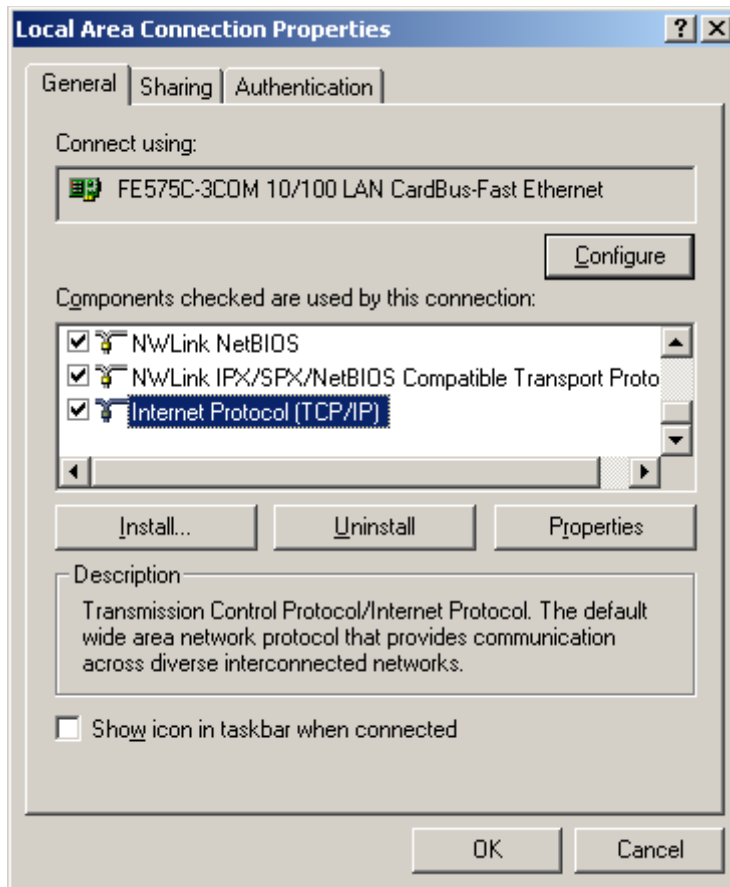
On the "General" tab, you have to select 'Internet Protocol TCP/IP' and then click 'Properties'. Then enter the following IP address and subnet mask.
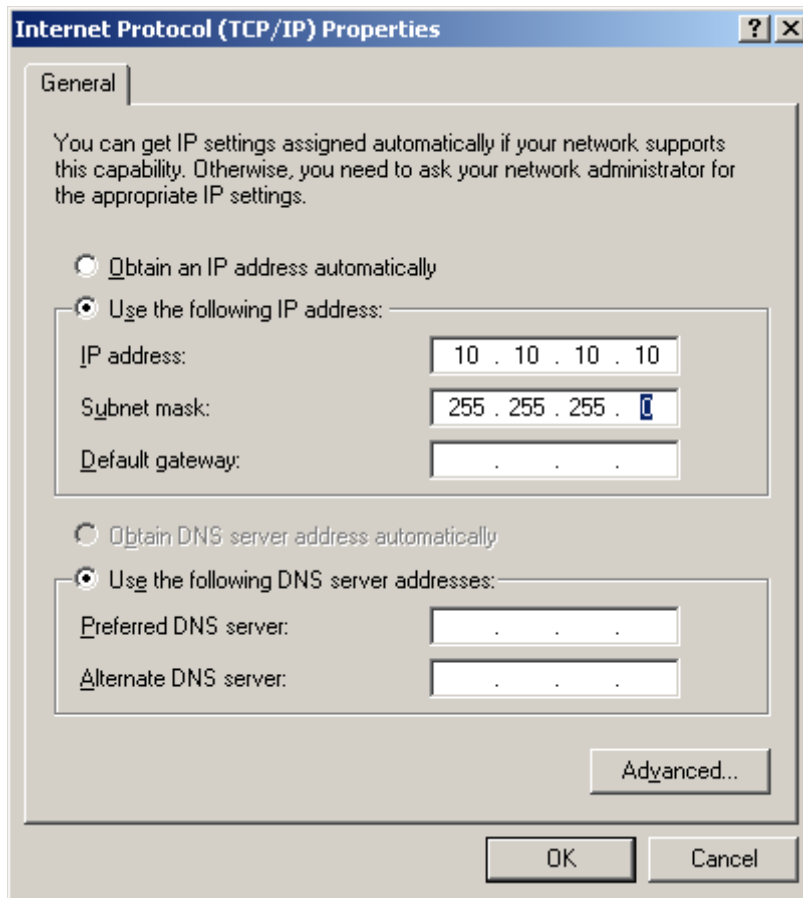
5.1.6 Proxy settings

Make sure that no proxy application is running, since there is no connection to the usual proxy server in the local area network (LAN).

5.1.6.1 Internet Explorer

In the Internet Explorer, go to Tools / Internet Options / Connections / LAN Settings/… and remove all proxy settings.
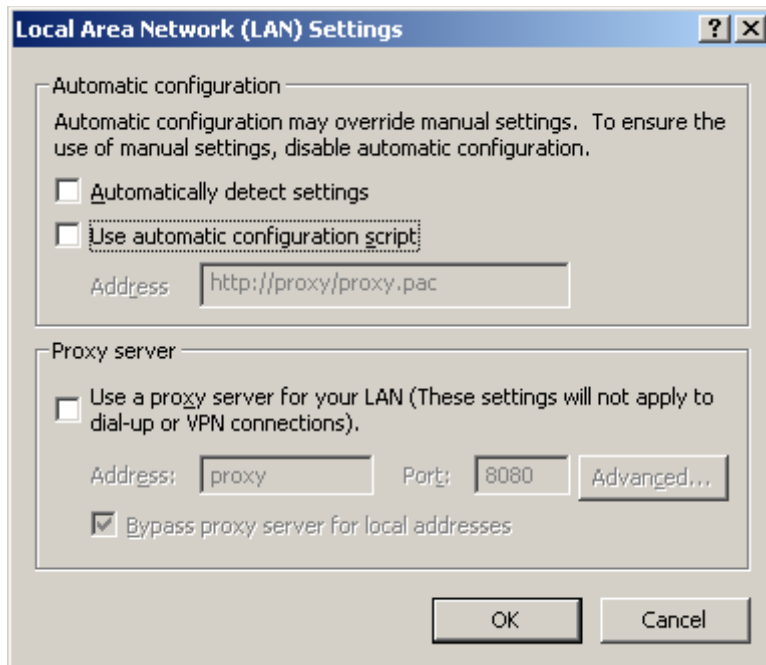
Alternatively, you can select "Bypass proxy server for local addresses" and enter the IP address of your novaWeb device in the "Exceptions" field.
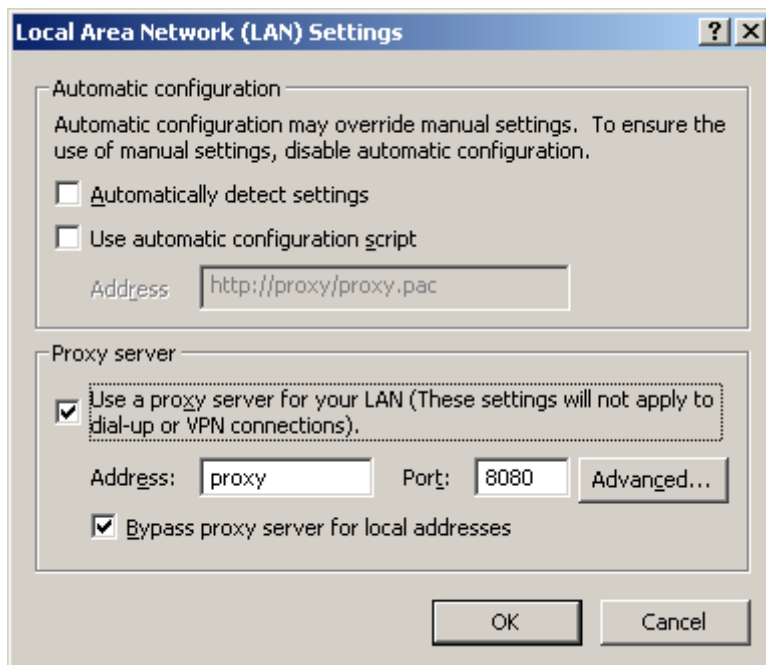
Proxy Settings

Servers

Type	Proxy address to use	Port
HTTP:	proxy	: 8080
Secure:	proxy	: 8080
FTP:	proxy	: 8080
Gopher:	proxy	: 8080
Socks:		:

☑ Use the same proxy server for all protocols

Exceptions

Do not use proxy server for addresses beginning with:

localhost;10.10.10.11

Use semicolons (;) to separate entries.

OK   Cancel

5.1.6.2 Mozilla

When working with Mozilla, go to "Edit / Preferences... / Advanced / Proxies" and then select "Direct connection to the Internet".
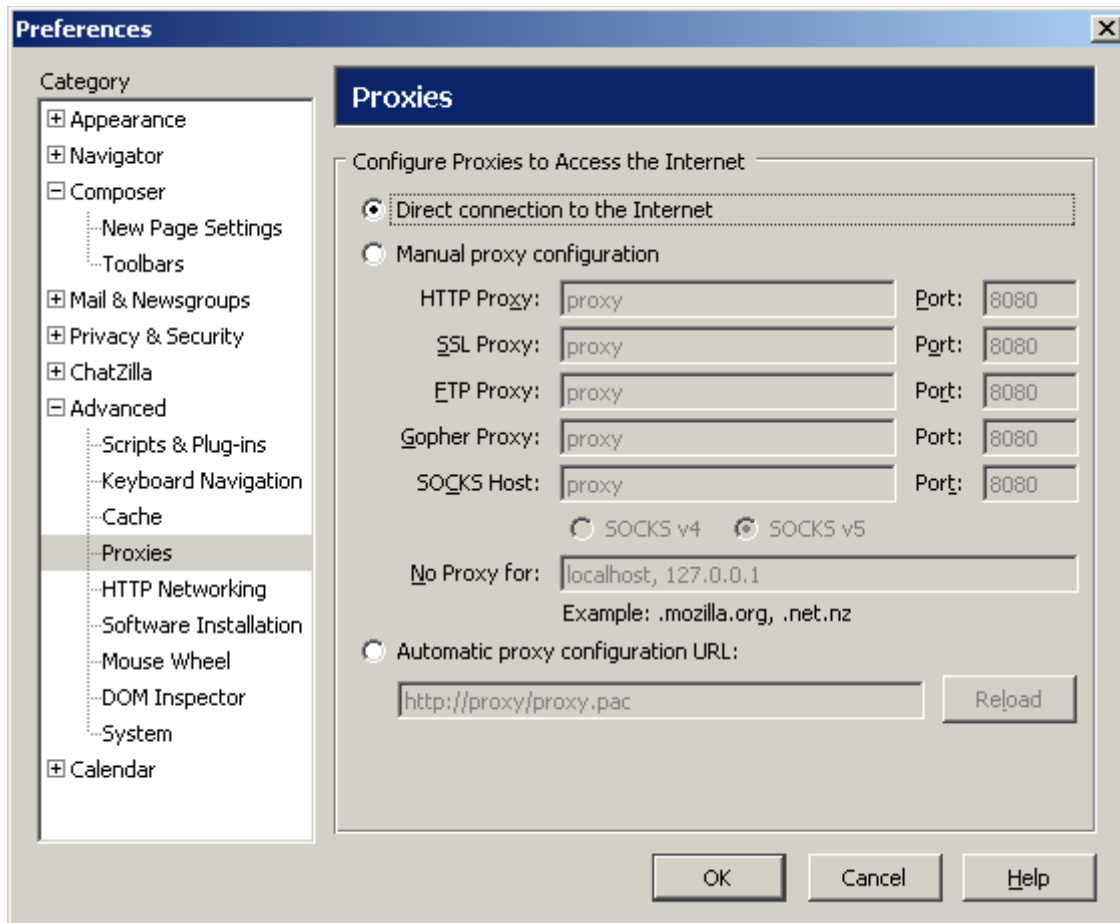
Alternatively, you can select "Manual proxy configuration" and enter the IP number of the novaWeb device in the "No Proxy for:" field.

Preferences

Category

- ⊞ Appearance
- ⊟ Navigator
  - History
  - Languages
  - Helper Applicat...
  - Smart Browsing
  - Internet Search
  - Tabbed Browsing
  - Downloads
- ⊞ Composer
- ⊞ Mail & Newsgroups
- ⊞ Privacy & Security
- ⊞ ChatZilla
- ⊟ Advanced
  - Scripts & Plug-ins
  - Keyboard Navi...
  - Cache
  - Proxies
  - HTTP Networking
  - Software Insta...

Proxies

Configure Proxies to Access the Internet

- ○ Direct connection to the Internet
- ⦿ Manual proxy configuration

HTTP Proxy:	proxy	Port:	8080
SSL Proxy:	proxy	Port:	8080
FTP Proxy:	proxy	Port:	8080
Gopher Proxy:	proxy	Port:	8080
SOCKS Host:	proxy	Port:	8080

○ SOCKS v4   ⦿ SOCKS v5

No Proxy for: localhost, 127.0.0.1, 10.10.10.11

Example: .mozilla.org, .net.nz

- ○ Automatic proxy configuration URL:

http://proxy/proxy.pac   Reload

OK   Cancel   Help

Now you can open the web pages for the novaWeb (see also the User Manual) and configure the settings according to your needs (see the Configuration Manual).

5.2 Operation

5.2.1 Introduction

novaWeb is a small embedded Web Server that allows you to visualize your installation via a standard Web Browser. Special attention has been paid to the simplicity of the interface (pure HTML, no ActiveX, Java, etc.) to allow for fast access even with very simple devices such as smart phones.
According to your login level, you can visualize any statuses or measurements, modify setpoints and commands or modify any settings.
Alarms and events (such as value changes) can be sent to up to 4 e-mail recipients.

novaWeb can also send out an e-mail to transfer historic values for billing or long-term backup.

This manual describes the user interactions via a standard PC Web browser (Microsoft Internet Explorer or Mozilla) and via the standard Web browser of a Symbian smart phone (SonyEricsson P900). Since the Web server is based on accepted Internet standards (HTML), any web browser complying to these standards should work identically. However, tests were limited to these programmes.

5.2.2 Requirements

A standard HTML 4.01-compliant Web Browser which supports frame-based pages is needed for optimal access to novaWeb pages.

For standard Windows PCs we recommend the current versions of MS Internet Explorer (V6.0) or Mozilla (V1.7).

Access via a smart phone or a PDA is also possible. Due to the relatively small size of the screens on these devices, we recommend you to use a special entry page without frames or to bookmark the content page as one of your favourites.

5.2.3 Layout and navigation

All standard (HTML4.01-compliant) Internet browsers will show a novaWeb page subdivided into three frames:

Header	
Navigation	Main field (on right)
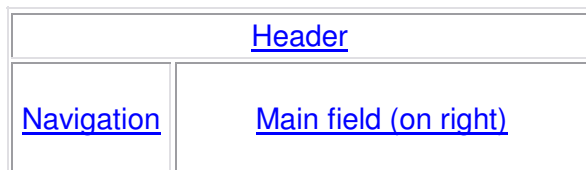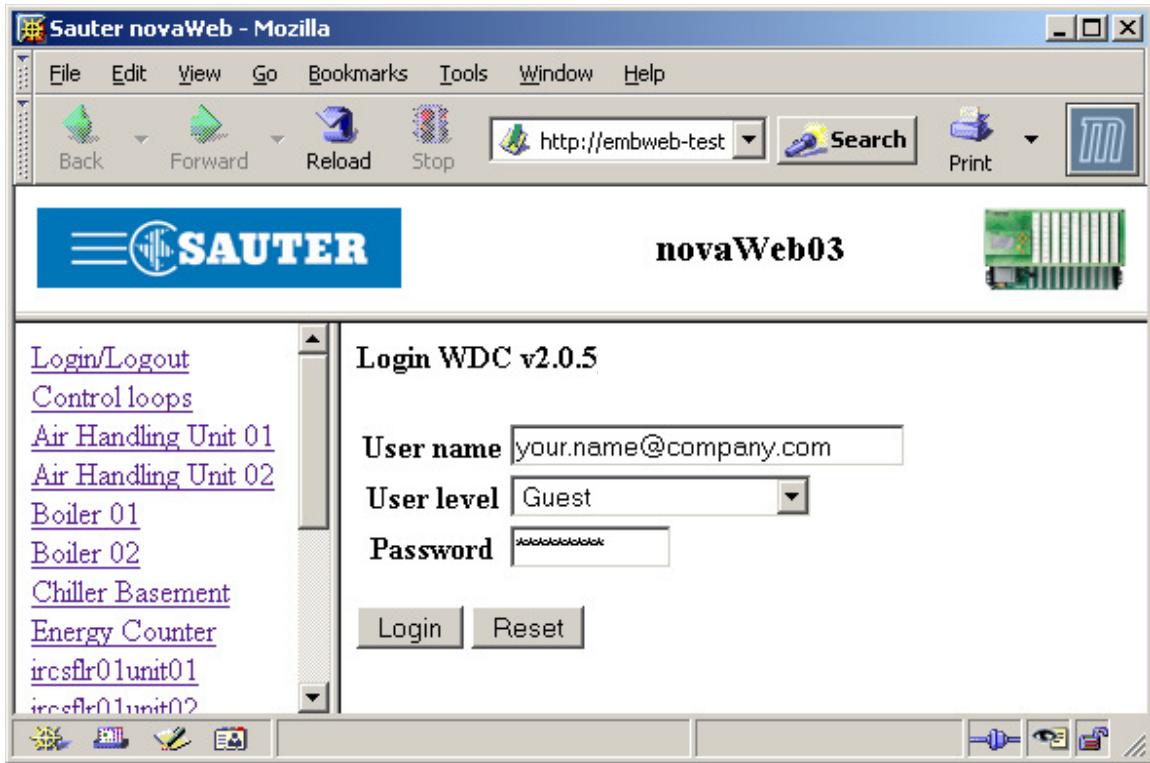
The header shows the site's name and several pictures and links.
The content of the main window depends on the selection in the navigation frame on the left.
If any of these three fields cannot be displayed entirely, scrollbars will appear to let you navigate to the location you need.

5.2.3.1 Header (top)

SAUTER VS Office	

Beside the site name you will find the Sauter logo; it may also contain further logos and links to home pages of the installation owner and a maintenance company, etc.

5.2.3.2 Navigation (left)

Navigation link	Display in main field
Login/Logout	Login and logout
Control Loops	Overview of control loops
Air Handling Unit 01	Installation view
Air Handling Unit 02	- Number of installations according to your site
Chiller Basement	- Access to function descriptions and schematics
Heating	

Alarms	Alarm list
Events	Event logs
Service	Service list (AS-oriented)
Settings	Configuration pages

The links to Login/Logout, Control Loops, Alarms and Events are shown for each user. Between Control Loops and Alarms you will see a list of configured installations (e.g. Air Handling Unit 01, Chiller Basement,..) depending on your specific installation. The Settings page is only shown for users with the appropriate user rights.

5.2.3.3 Main field (right)

Depending on the selection in the navigation frame, you will see the pages for login/logout, the control loops, installations, etc. as described above.

5.2.3.4 Navigation with smart phones

Some smart phone browsers (e.g. standard browser of SonyEricsson P900) cannot show all the fields at the same time. In this case you have to select which one of the three fields should be shown.
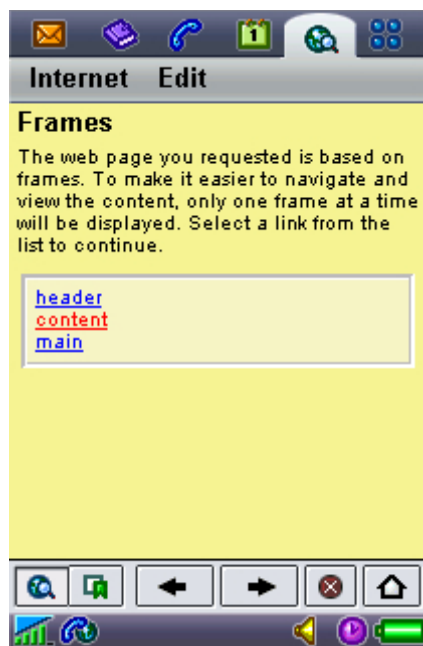
Select "Content" to show the navigation field. From here you can select the page you want to see. The first time you select any page the login page will appear. If you selected another page than the login page, you have to reload the page after login to go to your selected page. To switch to another page, you have to go back to the navigation field.

For easier access, you can bookmark the navigation page (Content) or even specify it as your home page.

Alternatively, you can select the "noframe.html" page. In this case only one menu will be shown, but you still have to go back to the start page before you can go to a different page.

5.2.4 Login/logout

To log in, go to the Login page:

- enter your user name (typically your e-mail address),

- select your user level,

- enter your password,

and click on the Login button.

Your name	Your e-mail address
User level	▼
Password	

Login   Zurücksetzen

After login you will go directly to the Alarm page to give you initial information.
To log off, just go back to the login page once again (select Login/Logout in the navigator field on the left).

5.2.4.1.1   Version information

During login you always see information about the installed version of your novaWeb station (e.g. novaWeb v2.0.1 means version 2.0.1).

5.2.4.2   Your name:

User name/e-mail address e.g. your.name@ch.sauter-bc.com

5.2.4.3   User level:

Guest

As a Guest, no password is required. Guests are only allowed to view the main values for control loops, installations, alarms and events without being able to modify anything.

User

A standard user has access to all Guest activities plus normal user operations such as confirming alarms, changing setpoints, etc.

Service

As well as the standard user rights, a Service user has access to the service list, which allows him to modify certain control loop parameters.

System maintenance

Only a System maintenance user has access to the system maintenance list in addition to the other authorisations, and he can change the entire configuration (settings page).

5.2.4.4 Password

You have to enter the correct password for your user level. The password will be provided by your system engineer and cannot be changed by yourself.

5.2.5 Control loops

The Control loops section gives you an overview of the main information about your possibilities for control. You are always shown the current (measured) value, the corresponding setpoint and the difference between them.

Control Loops	Actual	Setpoint	Diff
Supply Air Temp	32.6 ℃	34 ℃	-1,4 ℃
Cooling Water Temp	16.1 ℃	16 ℃	0,1 ℃

To facilitate the handling of your control loops, the deviation (or difference) is shown with a green background for very small deviations, olive for small deviations and yellow for large ones. This system allows a user to see very quickly whether he needs to take action.

The distinction between very small, small and large deviations is based on the type of control loop (indicated by units):

Unit	Default (no unit)	℃	Pa	kPa	ppm	%	bar	m/s	m³/h
Very small deviation									
Borderline between very small and small	1	1	30	0,3	100	5	3	5	10
Small deviation									
Borderline between small and large	2	2	60	0.6	200	10	6	10	20
Large deviation									

5.2.6 Installations

If you select any installation in the navigation bar, the standard installation view will be shown by default. This consists of the installation view itself plus some additional links related to your site.

5.2.7 Installation view

The installation view gives you an overview of your installation, structured as follows:

Device
Control loops
Control loop 1
Control loop 2
Outputs
Monitoring and alarm

- Device

    - displays the main devices, such as fans or pumps, together with feed-back signals, commands and alarm statuses

- Control loops

    - shows all datapoints belonging to a control loop grouped together as such.

- Outputs

    - any outputs which are controlled from more than one control loop

- Monitoring and alarm

    - includes all other measurements, meters and alarms which are not directly linked to any of the above sections.

Each of these sections is displayed in up to 4 columns:

Header or de-scription	Current value or status	User interactions	Alarms
Device			
Control loops			
Control loop 1			
Control loop 2			
Outputs			

Monitoring and alarm			

- The first column shows a description

- The second column indicates the current values or statuses.

    o additionally, it provides links to the progression of the value (50.5 ℃)

    o or the group of values (Progression).

- The third column shows any possible user inputs such as

    o time programmes (indicated by Change)

    o setpoints (a value such as 54 ℃)

    o commands (a command state such as Off)

    o or push buttons (for example).

- In the fourth column alarms are indicated as

    o OK or

    o Alarm

A green background for a control loop (first column) or a status (second column) indicates, if programmed, that this device is running (or is in functioning condition).

On

Device	Status	Command	Alarm
Time Schedule AHU01	On	Change	
Pump A3	Off	Off	OK
Control loops	**Actual**	**Setpoint**	**Alarm**
Temperature of supply air	Progression		
Outside air divergence	50.5 ℃		
Supply air temp	42,4 ℃	54 ℃	
Limit	0 %		
Cooling valve	0 %		
Heating valve	0 %		
Monitoring and alarm			**Alarm**
Fault, pump A			OK

In a more general view you can see the following information:

Device	Status	Command	Alarm
Time schedule	time command status	time command	
Digital Indication	digital input digital output	button: change setpoint	alarm
Control loops	**Status**	**Setpoint**	**Alarm**
Control loop x	Progression		
Compensation for control loop x	compensation sensor	compensation	
Control loop x	main sensor	calculated setpoint setpoint	alarm
Cascade controller for control loop x	limit sensor		
Output for control loop x	output		
Outputs	**Current**	**Setpoint**	**Alarm**
Individual output (not specific to one control loop)	output		
Monitoring and alarm	**Current**	**Setpoint**	**Alarm**
Common measurement	common sensor		alarm
Meter	meter		
Runtime meter	runtime	button	alarm
Individual alarm (not linked to any other value)			alarm

5.2.8 Progression

The group progression link (Progression) will show you a diagram of the whole function group (main sensor, setpoint or calculated setpoint and the positioning signal) whereas a simple link for one address (such as 50.5 ℃) will show only the progression of this individual point.

Hours Days Weeks Years

Sauter - Raumtemperatur oder Pot

VS/Office - Boiler Temp
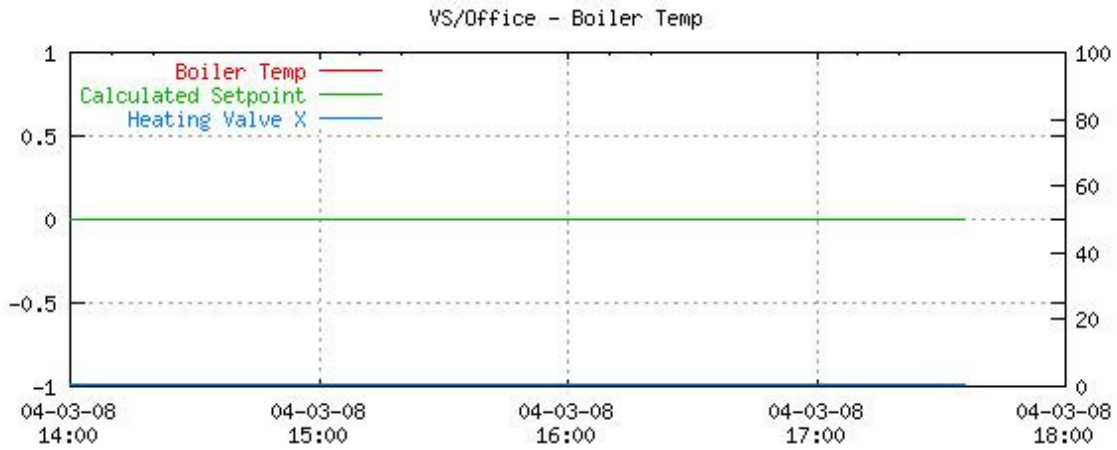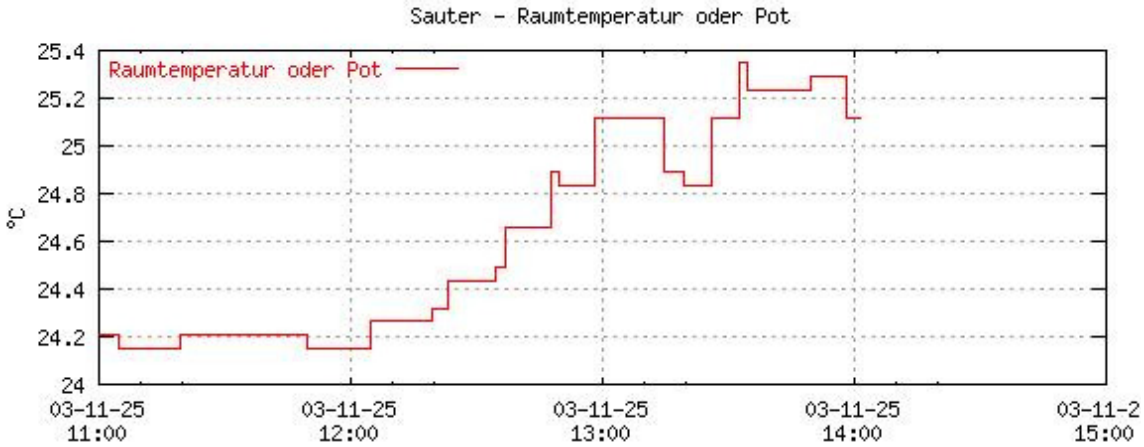
If the whole group is shown, the left scale corresponds to the main sensor and the (calculated) setpoint, whereas the right scale is used for the positioning signal.
The period for the diagram can be selected via the upper table:

Hours Days Weeks Years

Depending on your selection, you receive the following predefined records:

Chart	Time period	Recording cycle	Mean value	Min. value	Max. value	File	Saved in	e-mail sent at
Hours	4 hours	30 sec	x			k1log	RAM	every hour (x:00)
Days	4 days	5 min	x			k2log	RAM	every day (00:00)
Weeks	4 weeks	1 hour	x	x	x	l1log	CF Card	every week (Mo 00:00)
Years	1 year	1 day	x	x	x	l2log	CF Card	every quarter (01.xx. 00:00)

These records can be sent via e-mail to any e-mail recipient. For more details about this transfer please refer to the section below.

5.2.9 User interactions

In general, two kinds of user interaction are possible.

- Clicking on a button will always cause an immediate reaction (usually, a value is sent to the AS).

- A link will show a new page. On these pages, you can enter a new value (e.g. a setpoint) or select a new position. In this case the action is only executed after clicking on the [Change] button. Pressing the [Zurücksetzen] button will undo any changes since the last confirmed change (this means any user modifications after the last time the Change button was clicked).

After the command is executed, you always receive information about the changes made.

5.2.9.1 Button commands

Device	Status	Command	Alarm
Start-up Chiller 1	Off	[Start Up]	OK

A button can be given different button texts. However, it always functions identically by setting a value to one and resetting it 60 seconds later. During these 60 seconds, the background changes to green to indicate this change. After execution, feedback message will inform you of the change:

Change value

Changed command, switch for Pump A (as11chb.pump.pb) from 0 to 1

Button reset with 60 s delay.

5.2.9.2 Reset runtime

Monitoring and alarm			Alarm
Runtime, Pump A	23	Reset	OK

The runtime works in a similar way to the corresponding button, by resetting a counter value (runtime meter) to 0 (as you can also see from the feedback).

Change value

Changed reset, pump runtime (as11chb.pump.rt.pb) from 0 to 1

Button reset with 60 s delay
(First line only when status actually changes).

5.2.9.3 Change time schedules

Time schedules are changed in a dedicated menu which looks like this:

Profile	On	Off	Mo	Tu	We	Th	Fr	Sa	Su	E
1	0730	1700	✔	✔	✔	✔	✔	☐	☐	☐
2	0730	1400	☐	☐	☐	☐	☐	✔	☐	☐
3	0730	2100	☐	☐	☐	☐	☐	☐	☐	✔
4			☐	☐	☐	☐	☐	☐	☐	☐

It is possible to specify up to 4 programmes for one datapoint. This means that you can specify 4 different time periods for any combination of weekdays and exception periods. For example, you can specify one profile for normal working days (example profile 1), another profile just for Saturdays (example profile 2) and a third one for any exception days or periods (see below).
The valid times are 0000-2359. The switch-off time may precede the switch-on time.

Ex. Outdoor light	2100	0400

Empty field means no action.

Ex. Continuously on	0000	

Next, you can specify certain days or periods when these profiles should not be executed:

Inactive	040701-040731,041224

Exception (E)	040228,040327

Dates are written using the YYMMDD format and intervals use YYMMDD-YYMMDD
Dates and intervals must be separated with a comma.
In the example above, no time profile will be executed during the vacation season (1 July until 31 July 2004) and on Christmas Eve (24 December 2004). On 28 February 2004 and 27 March 2004, the "Exception" time profile will be executed instead of the normal time profile for this weekday (e.g. instead of the Saturday profile).

5.2.9.4 Command

☐ Auto

☑ Off

☐ On

Depending on the type of command, you can put this address in automatic status, switch it off or switch it to any given position.

5.2.9.5 Change values

| 54 | °C |

To change a value, simply enter the new value and press the Enter key.

5.2.10 Additional links

As well as your installation view, you can obtain additional links such as :[Functional description] [Schematics] [Service] [System maintenance]
Depending on your installation, you will receive further information about your system via the link to the functional description (an html document) or to the schematic.
For more detailed information, a service list and a system maintenance list are available to users with appropriate rights.

5.2.10.1 Functional description

Whether or not the functional description is present, and what it contains, will depend on your installation. It usually contains some information about the how your site functions.

5.2.10.2 Schematic

The Schematic picture usually shows a sketch of your installation with references to your datapoint list.
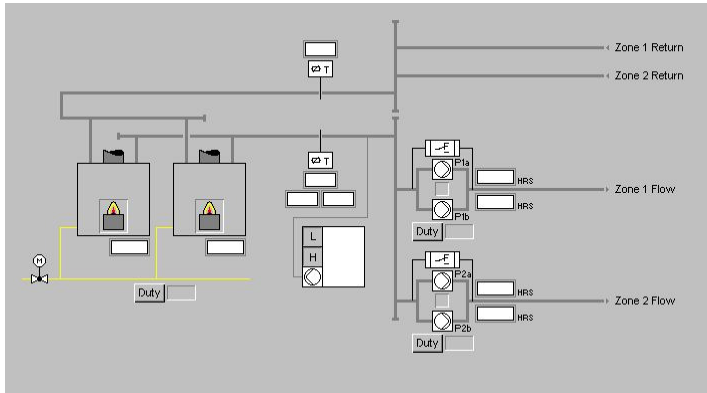
5.2.11 Service view

The Service list is only shown with Service or Maintenance user rights. As well as the standard installation datapoints, it shows some extra parameters which are not relevant to the standard user, in a simple list.

Description	Value	Name
Command: switch, Pump A	0	as11ahu01.pumpa.sw
Outside air divergence	50.6 ℃	as11ahu01.supaircontr.cs
Limit	0 %	as11ahu01.supaircontr.ls
Supply air temp	42.5 ℃	as11ahu01.supaircontr.ms
Heating valve	0	as11ahu01.supaircontr.out1
Cooling valve	0 %	as11ahu01.supaircontr.out2
Heating valve	0 %	as11ahu01.supaircontr.out3
Supply air setpoint	54 ℃	as11ahu01.supaircontr.sp

5.2.12 System maintenance view

The system maintenance list is very similar to the service list. As well as the information in the service list, you obtain more information about datapoints, intended for system maintenance level users only.

Name	Value	Description
as11ahu01	0	Air Handling Unit 01
as11ahu01.pumpa.al	0	Fault, Pump A
as11ahu01.pumpa.do	0	
as11ahu01.pumpa.sw	0	Command: switch, Pump A
as11ahu01.supaircontr.cs	50.6 ℃	Outside air divergence
as11ahu01.supaircontr.ls	0 %	Limit
as11ahu01.supaircontr.ms	42.5 ℃	Supply air temp
as11ahu01.supaircontr.out1	0	Heating valve

as11ahu01.supaircontr.out2	0 %		Cooling valve
as11ahu01.supaircontr.out3	0 %		Heating valve
as11ahu01.supaircontr.sp	54	℃	Supply air setpoint
as11ahu01.supaircor.sp	0		
as11ahu01.time schedule.tc	1		Time schedule AHU01

5.2.13 Alarms

In the default setting, you can see all the alarms in the alarm list that are not yet acknowledged or are still active.

Alarms

Status	Text	Time	Name
Acknowledge	Frost Protection Alarm	2004-07-21 15:18:02	ahu02.otemp.al

5.2.13.1 View all active or all generated alarms

With the Alarm link at the top of the alarm list, you can switch between the list of active alarms and the list of all generated alarms.

Status	Text	Time	Name
Acknowledge	Frost Protection Alarm	2004-07-21 15:18:02	ahu02.otemp.al
OK	novaNet AS 5 fault	2004-07-21 15:17:01	sys.sauter.as5.al
OK	novaNet AS 10 fault	2004-07-21 15:17:01	sys.sauter.as10.al
OK	novaNet Bus fault	2004-07-21 15:17:00	sys.sauter.busfail.al
OK	Alarm, runtime, return air controller	2004-07-21 15:18:01	reg.rac.rt.al

The list of all generated alarms also shows the alarm datapoints which are currently OK.

5.2.13.2 Alarm priorities

According to the importance of an alarm, its background will be shown in different colours:

Emergency
Alert
Critical

Error
Warning
Note

5.2.13.3 Acknowledging

If a new alarm appears, the Acknowledge link is shown at the same time to indicate that the alarm has not yet been acknowledged. After the acknowledgement is completed, the alarm will remain active if the alarm condition is still met; otherwise, alarm will disappear. An alarm will only be treated as normal (not active) after the alarm condition has disappeared and (!) the alarm has been acknowledged.

5.2.13.4 System errors

Some alarm datapoints are generated automatically by the system to indicate critical system errors:

OK	novaNet-Bus error	2004-07-20 13:59:25	sys.sauter.busfail.al

A novaNet bus error is shown whenever no communication arrives within a certain time period.

OK	novaNet AS 10 error	2004-07-20 16:55:09	sys.sauter.as10.al

For each AS, an alarm is generated to indicate a communication error to this AS.

5.2.14 Events

The following events can be tracked in the event list:

- all user interactions
    - o acknowledging alarms
    - o changing values (setpoints, commands, buttons, runtime)
    - o changing settings (language, etc.)
- any (incoming or outgoing) alarms
    - o normal alarms
    - o system alarms (bus error, AS error, internal system error)
- manual user entries
    - o according to entry (at least user level required)

Beschreiben Sie das hinzuzufügende Ereignis hier | Benutzer ▾ | Hinzufügen

If you want to enter any information manually, you can enter a description in the form to the left, select a domain and press the Add button.

Time	Text	Domain	Priority	Source
2003-11-12 10:01:30	Changed cooling water setpoint (as11chb.control.sp) from 8 to 9	User	Info	peter.hohm@ch.sauter-bc.com
2003-11-12 09:58:21	Changed supply air setpoint (as11ahu01.supaircontr.sp) from 34 to 54	User	Info	peter.hohm@ch.sauter-bc.com
2003-11-12 08:12:34	as13ircsfl001hu0002.al acknowledged	User	Info	peter.hohm@ch.sauter-bc.com
2003-11-11 16:05:03	Changed time schedule as10ahu02.timeschedule.tc	User	Info	peter.hohm@ch.sauter-bc.com
2003-11-11 15:55:43	BINARY INPUTALARM =Alarm	Heating	Debug	as2bacnet.1princbis120
2003-11-11 14:33:24	Changed modem settings	User	Info	peter.hohm@ch.sauter-bc.com
2003-11-07 15:03:38	NovaNet AS 10 failure =alarm	Heating, Ventilation	Error	sys.sauter.as10
2003-11-07 14:44:43	Changed supply air setpoint (as11ahu01.supaircontr.sp) from 25 to 27	User	Info	peter.hohm@ch.sauter-bc.com

One part of the event list can contain up to 200 entries. As soon as more than 200 entries exist a new list is created and becomes part 1. The old list becomes part 2 and so on. This means that up to 800 entries can be tracked. The newest entries are always in part 1 (which is shown by default), and the oldest entries are in part 4.

| Part 1 | Part 2 | Part 3 | Part 4 |

5.2.15 Service

The Service page contains a list of all AS that are handled in your system.

AS1 AS2 AS3 AS4 AS6 AS20505

After selecting one of your AS you will see a list of all the datapoints for this AS.

	Name	Value	Description
6:0	mfa0	27.9 ℃	Office temperature
6:1	mfa1	4.5 ℃	Outdoor temperature
6:2	mfa2	2.1 ℃	EGT330 room sensor
6:52	bi52	Aus	BI52
6:65	alarmbisoft52	Alarm	ALarmBiSoft52

The first column shows the AS address and MFA (datapoint address), followed by the name, the current value and a description on the same line.

5.2.16 Settings

Access to the settings pages depends on your user rights.

- Guests cannot access the setting pages at all

- Users can only access the Data acquisition page to fetch historical data

- Service users can access and change the alarm, data acquisition, system name and clock settings

- System Maintenance users can access and change everything.

5.2.17 Data entry

Hours	Days	Weeks	Year
30-sec. values every hour	**5-min. values every day**	**hourly min,mean,max every week**	**daily min,mean,max every quarter**

Similarly to data acquisition transfer via e-mail, you can select and view or save the historic values of any of the four time periods (Hours, Days, Weeks and Year). You can use your browser's context menu (right mouse click) "Save Link Target As..." (Mozilla) or "Save Target As..." (MS IE) to save the historic data into a csv-format html file, which you can then import to your favourite spreadsheet programme such as MS Excel (see also Processing of Data Acquisition Files). Alternatively you can open the relevant web page to look at the values directly and/or open the source from the context menu (Mozilla: "This Frame / View Frame Source" or MS IE: "View Source Text").

Typical data acquisition table

```
#dateTtime±zone gev.om.ms      gev.om.out1    gev.om.sp
2004-07-22T09:00:30+0200       7.99561 7.99561 7.93457 0
2004-07-22T09:01:00+0200       7.99561 7.99561 7.99561 0
```

You can also save the data from the source page with the 'Save as' command.

5.2.18 E-mail messages

Depending on the configuration of your installation, you can receive e-mail notifications about alarms or events. The historical data can also be transferred also via e-mail on the basis of an individual time setting.

5.2.18.1 Alarm and event notification via e-mail

Depending on your installation, alarms and events will be transmitted via e-mail directly to your e-mail client or forwarded to SMS.

5.2.18.1.1 Header

The header can be processed by an automated e-mail client program. It contains the following information:

- Subject

    o Alarm or event, site and datapoint address

- X-Priority

    o the standard e-mail priority (normally indicated via a flag in your e-mail client)

    o from 1 (highest) until 5 (lowest)

- X-WDC-DOM

    o novaWeb domain

- X-WDC-PRI

    o novaWeb priority (same as for alarms)

- X-WDC-EID

    o site and datapoint address together with current status

As an example, a bus error on the VS Office site could be sent like this:
Subject: Alarm, VS/Office/sys.sauter.busfail
X-Priority: 3 (Normal)
X-WDC-DOM: SYS
X-WDC-PRI: ERR
X-WDC-EID: VS/Office/sys.sauter.busfail=1

5.2.18.1.2 Content

The content of the e-mail notification explains the error in a full text message such as:
"NovaNet Bus failure".

5.2.18.2 Data acquisition via e-mail

As a further option, the historic values of your novaWeb can be sent to certain e-mail
clients according to a defined time schedule. Four different type of logs corresponding to
the four historic charts cover either the last four hours, the last four days, the last four
weeks or the whole of the last year.

5.2.18.2.1 Header

As well as the alarm and event notification, you will find some additional information in
the data acquisition header which could be processed by an automated e-mail client:
The subject describes the type of log file, WDC-DOM specifies the domain (always
SYS), the WDC-PRI gives you the priority (INFO) and the WDC-EID again specifies the
site (e.g. VS Office), the type of e-mail (data acquisition) and the file name.
Subject: Data acquisition, VS Office/DAQ/K1LOG
WDC-DOM: SYS
WDC-PRI: INFO
WDC-EID: VS/Office/DAQ/K1LOG

5.2.18.2.2 Contents and attachment

The historical values are sent directly in the message, together with a csv file (comma-separated values) as an attachment. Depending on the type of log, it will contain up to three values (mean, min and max) for a datapoint registered according to a specified recording cycle over a certain time period:

Chart	Time period	Recording cycle	Mean value	Min. value	Max. value	File	Saved in	e-mail sent at
Hours	4 hours	30 sec	x			k1log	RAM	every hour (x:00)
Days	4 days	5 min	x			k2log	RAM	every day (00:00)
Weeks	4 weeks	1 hour	x	x	x	l1log	CF Card	every week (Mo 00:00)
Year	1 year	1 day	x	x	x	l2log	CF Card	every quarter (01 Jan, Apr, Jul and Oct 00:00)

Type K log

#dateTtime±zone	as15ahu01.supaircontr.ms	as15ahu01.supaircontr.cs	...
2004-01-27T14:00:30+0100	20.3	0.4	
2004-01-27T14:01:00+0100	20.4	0.5	
2004-01-27T14:01:30+0100	20.4	0.5	
2004-01-27T14:02:00+0100	20.2	0.5	

In the K1LOG and the K2LOG, only the mean value is logged.

Type L log

#dateTtime±zone	ircsflr01unit01.fc.ms	ircsflr01unit01.fc.ms.min	ircsflr01unit01.fc.ms.max	...
2004-03-01T01:00:00+0100	-74.0265	-74.0439	-73.9297	
2004-03-01T02:00:00+0100	-74.0287	-74.0439	-73.9868	
...				

The L1LOG and L2LOG record the minimum and maximum values as well as the mean value, to give greater accuracy.

5.2.18.2.3   Saving

If you are processing these e-mail messages manually, you should open the message and save the attachment at the location you want so that you can carry on working with them. Depending on your needs, you should rename them to specify the site or the time period etc.

5.2.18.2.4 Processing data acquisition files

To ensure efficient monitoring and optimization of energy and media consumption, we recommend the use of a monitoring and optimization tool such as **EY3600 novaPro EBal.**

A further possibility is to use a standard spreadsheet programme such as **MS Excel** or **OpenOffice Calc**. In this case you have to import and process the data manually. Since the data are saved as a tab-delimited table you have to open or import the table as appropriate.

5.2.19 Hints

5.2.19.1 Updating HTML pages

The visualising of any values relies entirely on HTML technology. In order make everything available via all standard HTML browsers, including mobile telephones, no Java or Active-X technology has been used. Therefore, all the values shown on these web pages correspond to the novaWeb values at the time when the page is loaded. To refresh a page you have to reload it manually.

5.2.19.2 Transferring alarms and historical data

The transfer of alarms, events and historical data to an e-mail account and especially any further processing (such as forwarding as SMS) relies on the availability of these providers and services. For example, if a dial-up access point is not available at the time of an alarm transmission, novaWeb makes several repeat dialling attempts, but will fail to transfer this message if the access point is not reachable within a reasonable time. If a mobile phone cannot be reached within 24 hours (depending on the SMS provider), no SMS message will be delivered.

5.2.19.3 Security

Security requirements can vary tremendously depending on the importance of the monitored site (from simple heating up to danger to life). Please discuss your specific security needs with an IT professional. He will advice you on password management (regular changes, etc.), firewalls and further security measures.

5.2.20 Tips and tricks

5.2.20.1 Reload / refresh button after user entries

The "Reload" (Mozilla) or "Refresh" (MS Internet Explorer) button resends the last information. This can lead to errors after changing values, acknowledging alarms, etc. If you want to refresh your page contents after changing something, it is preferable to use the appropriate link (installation, alarms, etc.) from the navigation field instead of the reload or refresh button.

5.2.20.2 Cache

Especially with mobile telephones, pages are not always loaded freshly each time. Try to empty the cache and use the reload / refresh button to force loading of the current page information.

5.2.20.3 Memory settings

Since the short-term historic values are only saved to the RAM memory, please avoid switching novaWeb off as far as possible. All other settings (configuration, time programmes, etc.) are saved to the flash memory.

5.2.20.4 Cookies

Cookies must be enabled for session management (at least for this site).

5.2.20.4.1 Cookie settings for MS Internet Explorer

If you are using MS Internet Explorer, go to "Tools / Internet Options / Privacy" and specify your privacy settings for the required zone (e.g. Internet zone) as "Medium High" or lower.

You can also specify the Cookies setting for individual web sites to "allow" cookies for the site:
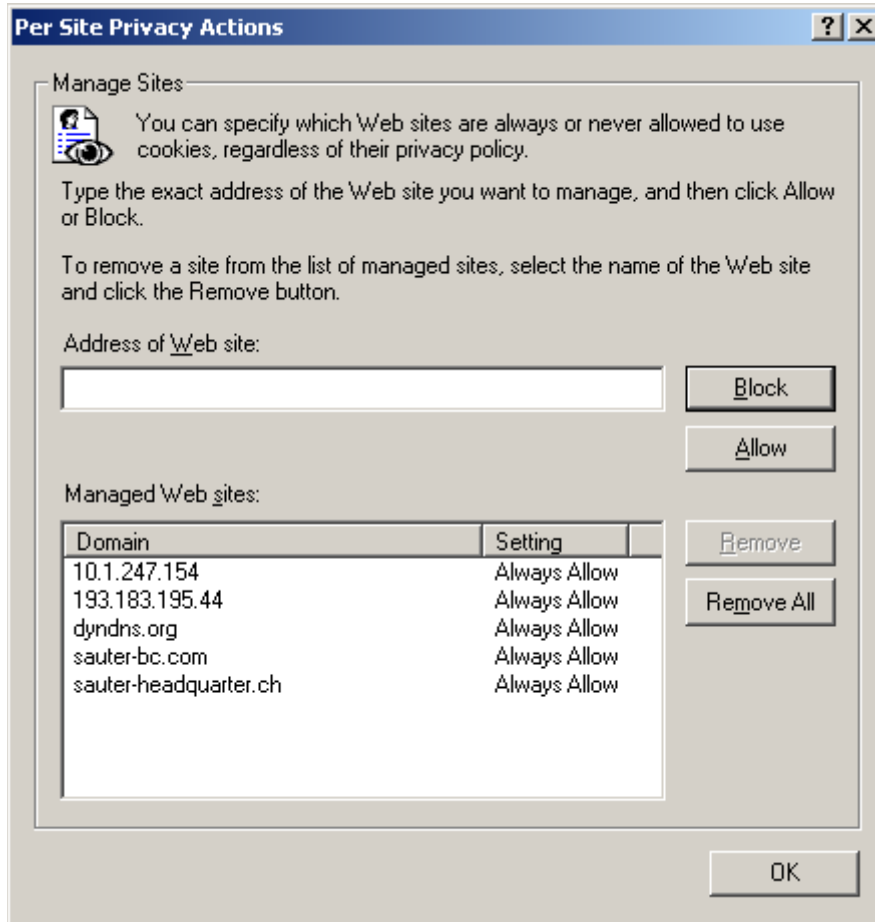
5.2.20.4.2 Cookie settings for Mozilla:

If you are using Mozilla, go to "Edit / Preferences... / Privacy & Security / Cookies" and either select 'Enable all cookies' or 'Enable cookies based on privacy settings':
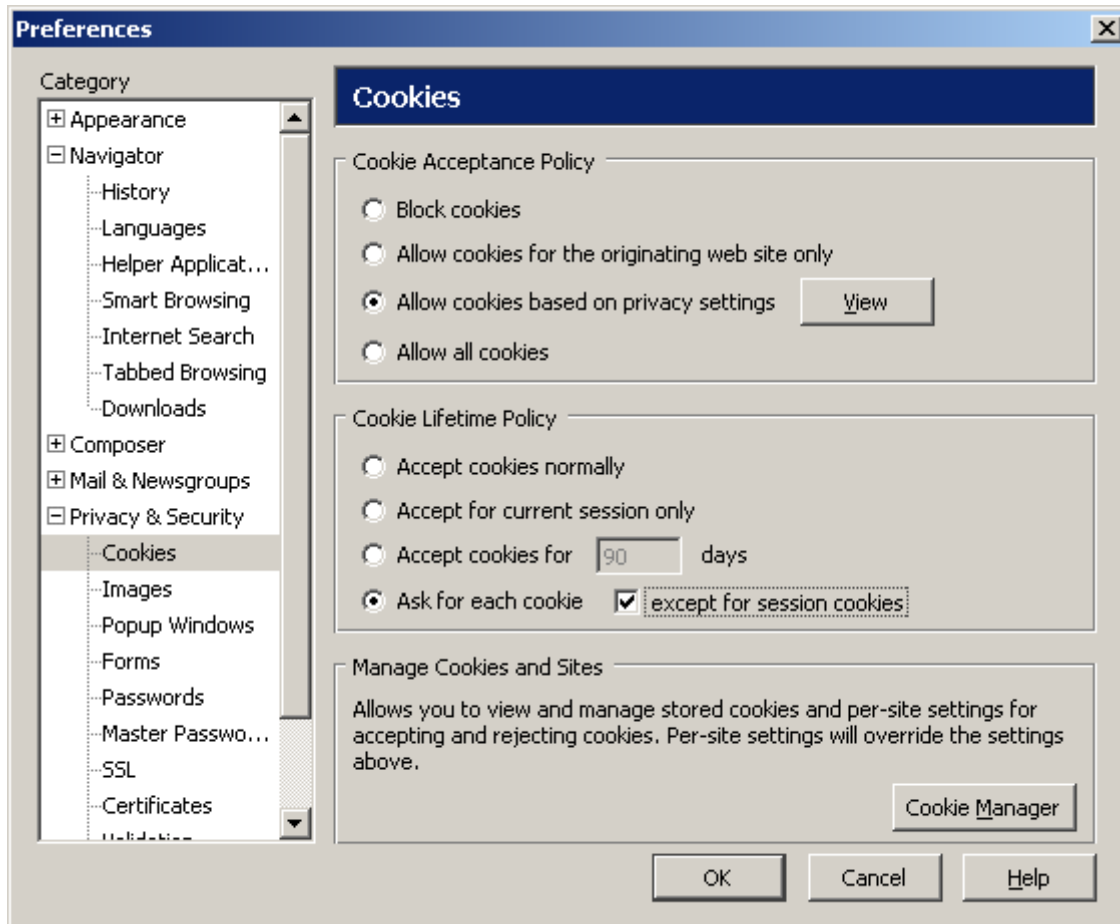
If you also select 'Ask me before storing a cookie' you can go to the novaWeb site where you are asked if you want to allow the creation of cookies.

You can use the Cookie Manager to check whether cookies are allowed for your site:
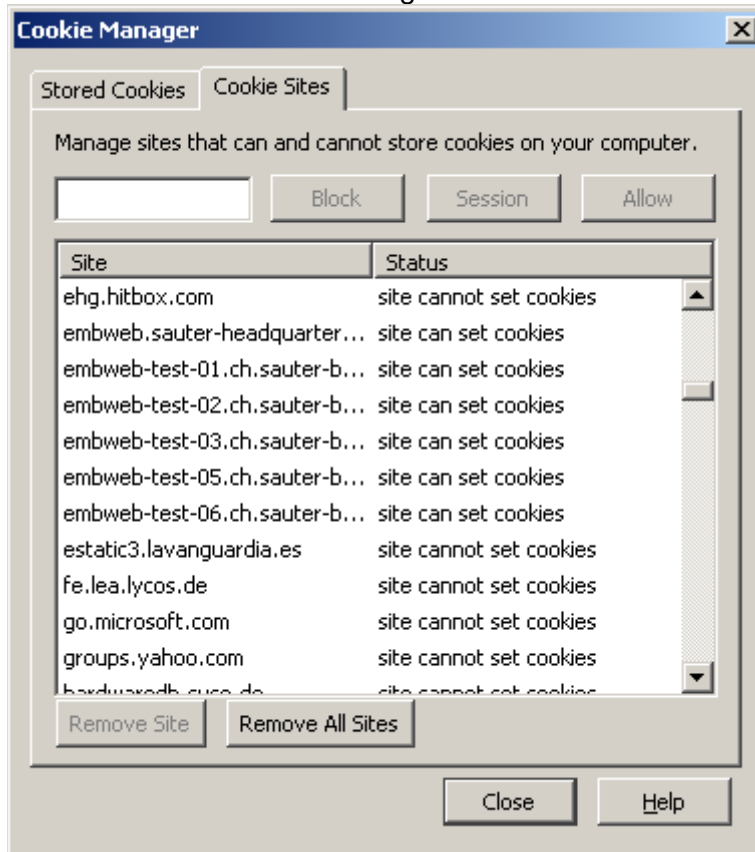
If cookies are blocked for this site, select "Tools/Cookie Manager / Unblock Cookies from this site" to allow the site to set cookies again.

5.2.20.4.3   Cookie settings for the SE P900

In the Sony Ericsson P900 Internet Browser, go to "Edit / Preferences / Security" and then mark "Allow cookies":

5.2.21 JavaScript

On the start page (index.html), JavaScript is used to forward users with small screens to the frameless start page (Menu.html). So in this case, JavaScript should be enabled to make use of this functionality.

5.2.22 Language settings

All novaWeb pages are written so that they will display correctly in countries with western European language settings (Latin 1 Language Page).
User in countries with a different language page (e.g. Turkey, Russia, etc.) have to select the correct character encoding.

5.2.22.1 Language settings for the Internet Explorer

For the Internet Explorer, go to 'View / Encoding / Western European (ISO)'.

5.2.22.2 Language settings for Mozilla

The language settings for Mozilla can be checked at "View / Character Coding"; they must be "Western (ISO-8859-1)".

5.2.22.3 Language settings for the SE P900

The standard Web browser of the Sony Ericsson P900 only shows the characters of the selected language correctly. If you want to visualise any web pages which include special characters (e.g. öäüéàè..) you have to select the appropriate language under "Control panel / Other / Language selection".

5.2.23 Connection

In general there are two basic set-ups. Either you are directly connected to your site via TCP/IP, in which case you only have to enter the corresponding address to reach the novaWeb sites. Otherwise, the connection has to be established manually or automatically when you try to access the web server. This is called a dial-up connection.

5.2.23.1 Direct TCP/IP connection

To connect to novaWeb you have to enter its URL (Uniform Resource Locater). A URL is defined as follows:

- protocol://host name [:tcp-port] [/access path] [/file name] [further options]

- e.g. http://embweb02.ch.sauter-bc.com:8080/index.html
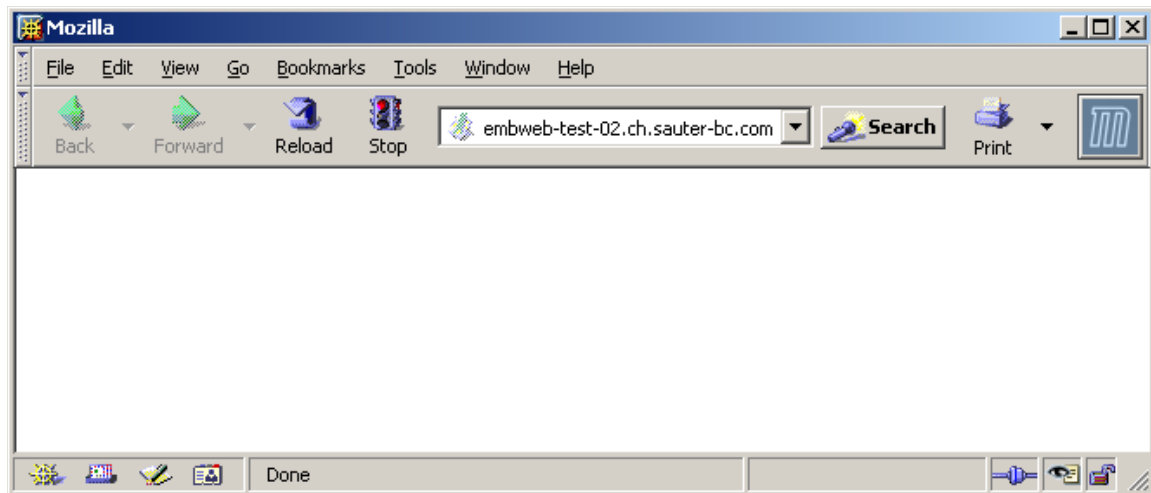
Normally it is sufficient to enter the IP address (z. B. 10.1.247.154) or the host name (e.g. embweb02.ch.sauter-bc.com). All standard web browsers add http by default. The port only needs to be added if http is not running at the default port 80.

5.2.23.2 Dial-up (PPP) connection
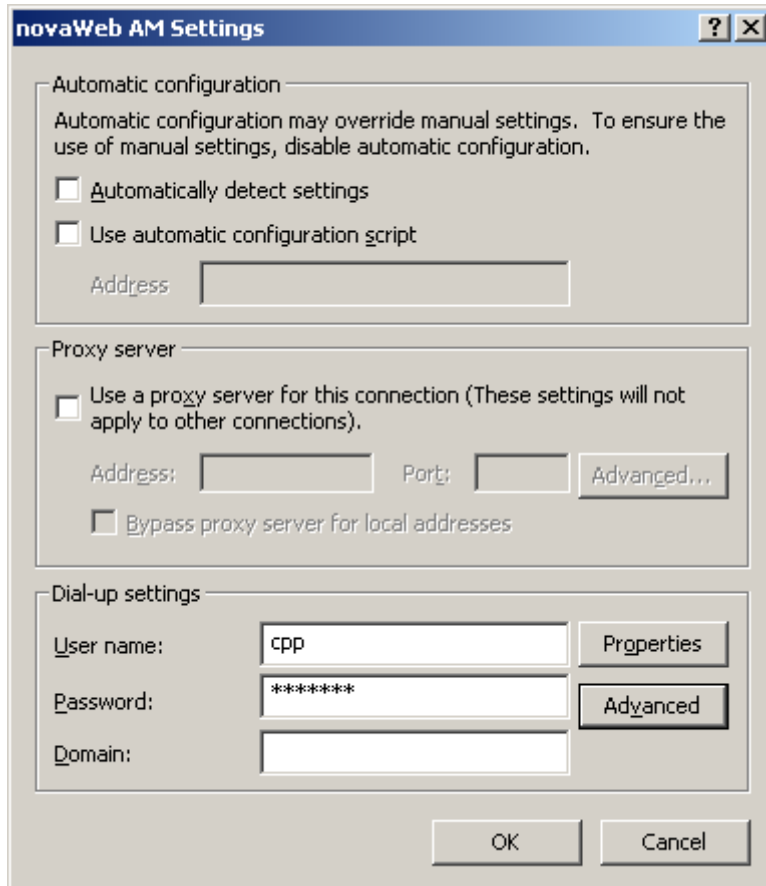
5.2.23.2.1 PC Dial-up connection

If you want to use a dial-up connection, e.g. via an analogue modem, you have to configure the connection. In MS Windows XP, you can do this via Start / Settings / Networks and Dial-up Connections / Make new Connection:
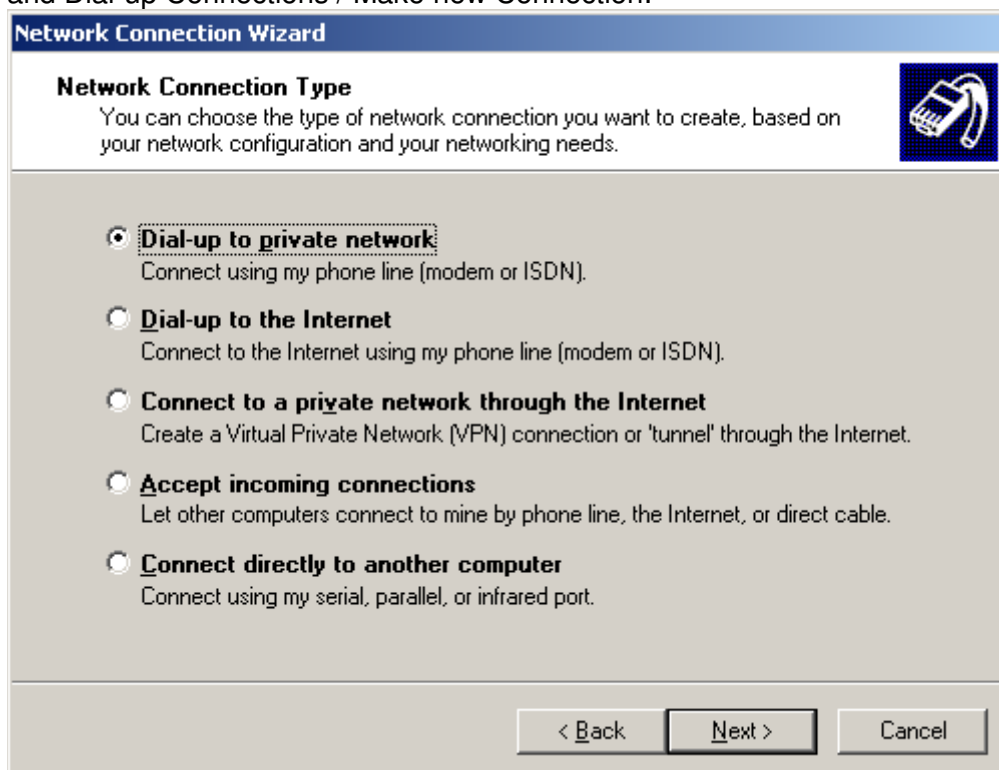
You should select "Dial-up to private network" to connect directly from your PC modem to the modem connected to the novaWeb. If your novaWeb is connected to the Internet you should select this option.

In the first case (private network) you have to specify the user name and password for the dial-in server of the novaWeb:

Depending on your installation (type of connection, Internet Browser, etc.) this dial-up connection can be established automatically by your browser (MS IE) when you open the novaWeb site:
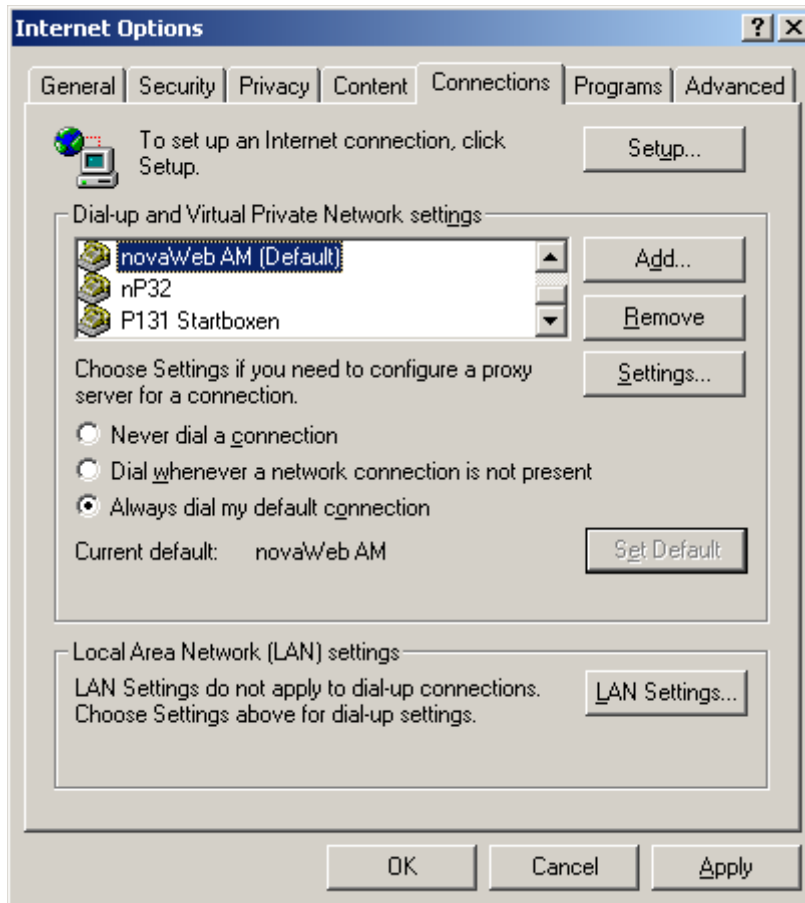
When working with other web browsers such as Mozilla, you have to establish the connection manually via the MS Windows Connections.
In some cases, for example if you are using an AVM ISDN card, you have to use the corresponding proprietary software to establish the connection.

5.2.23.2.2   SE P900 Dial-up Connection

With modern GSM devices, you can transmit data via a CSD, HSCSD or GPRS connection. At the time of writing, UMTS was still not very widespread and therefore it is not dealt with in the current version of this manual.
CSD (Circuit Switched Data) is the standard continuous data transmission with 14.4 kBit/s, which is traditionally used for voice transmission.
HSCSD (High Speed CSD) bundles several CSD transmission channels together to allow higher transmission rates (normally up to 56 kBit/s).
GPRS (General Packet Radio Service) is a packet switched data transmission which is also much faster than CSD (also up to 56 kBit/s). Theoretically, the connection is constantly present, but you only pay for the actual data volume.
Since novaWeb pages are optimised for mobile communication (small data volume), we generally recommend you to use a GPRS connection.
To verify your connection settings, to create a new connection or modify an existing one you have to select "Control panel" in the application menu:

Go to the Connections tab:
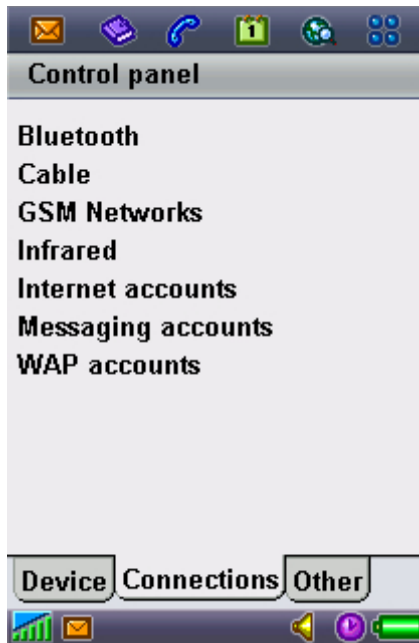
And select "Internet accounts".

Normally you will receive a list of preconfigured connections from your telephone provider:

Two connection types can be generated: GPRS or dial-up. A GPRS connection is normally used to access an Internet provider (such as Swisscom):

A dial-up connection is used to connect to an analogue modem, a GSM modem or an ISDN adapter. In this case you have to enter the phone number that you want to connect to, and the user name and password for the dial-in server of your novaWeb device:

If you choose a dial-up connection, you have to enter an IP address which belongs to the same network as the one configured in the novaWeb (but not the same address):
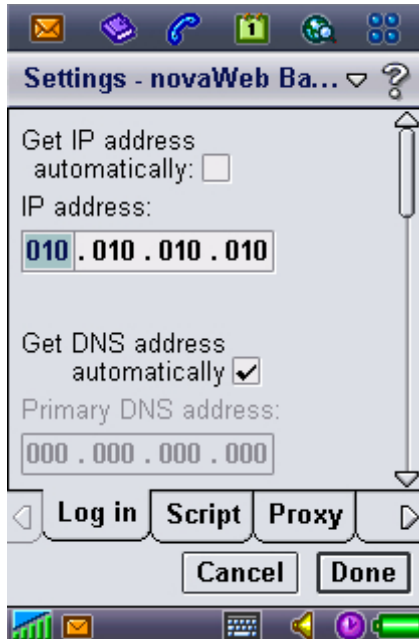
When connecting via an Internet provider, you will receive an IP address automatically from this provider (and you should therefore tick the relevant box).

For a dial-up connection, you have to specify whether you have an analogue or ISDN connection. When calling a GSM modem, you must also select 'Analogue':

5.2.24 Appearance

5.2.24.1 Links

In general, links which you have not yet visited will be shown in blue, and links you have already visited will be shown in purple. All links will be underlined. This could vary depending on the settings for your individual Internet browser.

In Microsoft Internet Explorer, the colour settings can be found at "Tools / Internet Options ... / General / Colours", and the underline function is at "Tools / Internet Options ... / Advanced / Browsing / Underline links":
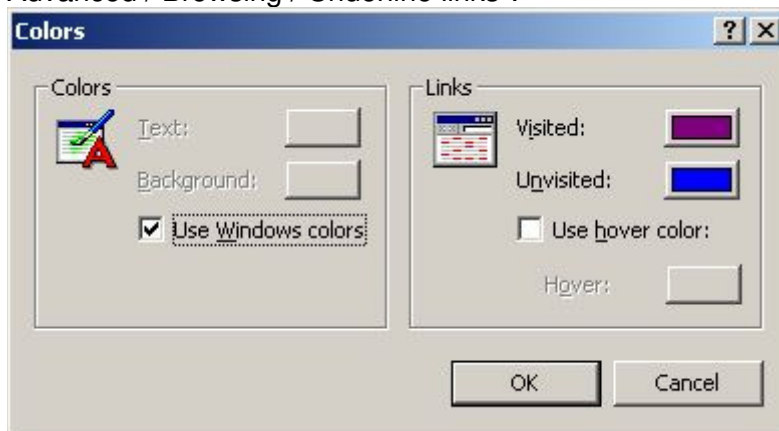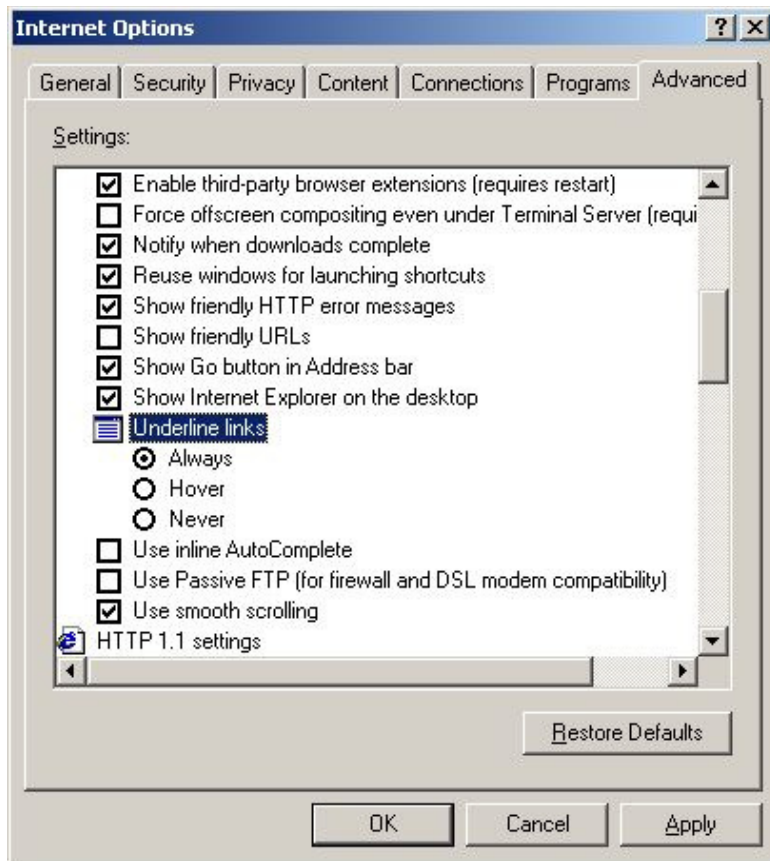
For Mozilla, you can find these settings at Edit / Preferences / Appearance / Colours:

Preferences

Category

- ☐ **Appearance**
  - Fonts
  - Colors
  - Themes
  - Languages/Content
- ☐ **Navigator**
  - History
  - Languages
  - Helper Applications
  - Smart Browsing
  - Internet Search
  - Tabbed Browsing
  - Downloads
- ☐ Composer
- ☐ Mail & Newsgroups
- ☐ Privacy & Security
- ☐ ChatZilla
- ☐ Advanced

Colors

Text and Background

Text:

Background:

☐ Use system colors

Link Colors

Unvisited Links:

Active Links:

Visited Links:

☑ Underline links

When a web page provides its own colors and background

◉ Always use the colors and background specified by the web page

○ Use my chosen colors, ignoring the colors and background image specified

OK   Cancel   Help

6   Service-Termial DigiService

T05688F2
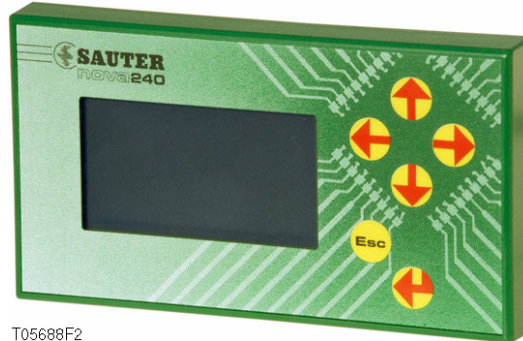
6.1 Operation

Amongst other things, the nova240 enables: values and status to be displayed locally; switching and positioning commands to be issued; and the time- and date-dependent switching program to be entered and amended.

The nova240 can be connected to DigiUnit (AS). Since the nova240 itself does not need parameterising, it can be used as a mobile terminal for a lot of stations.
It gains all its information, i.e. plaintexts, unit of measurement etc., from the data-point attributes stored in the relevant automation station.

6.2 Operating philosophy

The nova240 is operated via four directional keys – two each for left/right ($\leftarrow$ and $\rightarrow$) and up/down ($\uparrow$ and $\downarrow$) – plus the **Esc** key and the return key ($\dashv$).
Use the $\leftarrow$ and $\rightarrow$ keys to choose the desired function within the menu.
$\rightarrow$ = downwards, next function
$\leftarrow$ = upwards, previous function
The function is then invoked after you have confirmed your choice by pressing the $\dashv$ key.
In the case of purely reading functions (displaying measured values, alarms etc.), the $\uparrow$ or $\downarrow$ keys allow you to move through the alphanumerically arranged list.
In the case of input functions, the $\leftarrow$ and $\rightarrow$ keys enable you to choose the appropriate location, while the $\uparrow$ and $\downarrow$ keys let you change the relevant value, the time and date etc. If you keep the relevant key pressed, the change is continual instead of in single steps.
Press the $\dashv$ key to confirm.

6.3 Illumination

Each press of a button switched the display's illumination on. The light goes out again if no key is pressed within the next 7.5 minutes.
This method extends the life of the display.

Once the illumination goes out, the password becomes invalid, i.e. it has to be entered again in order to make further entries.

6.4 Adjustement of the contrast

At the back of the device the contrast of the display can be varied with the help of a small screwdriver.

6.5 List of functions

The various functions of the nova240 can be attained using three menus:-

M	E	N	U		1				→	N	e	x	t		p	a	g	e	s	
→	P	a	s	s	w	o	r	d												
→	A	d	d	r	e	s	s		r	e	s	e	t							
→	A	l	a	r	m	s	/	F	a	u	l	t	s							
→	S	t	a	t	u	s		+		B	i	n	a	r	y		F	B		
→	M	e	a	s	u	r	e	d		v	a	l	u	e	s					
→	C	o	u	n	t	e	r		v	a	l	u	e	s						
→	S	w	i	t	c	h		c	o	m	m	a	n	d	s		+		F	B

M	E	N	U		2				→	N	e	x	t		p	a	g	e	s	
→	S	e	t	p	o	i	n	t	s	/	P	o	s	.	v	a	l	u	e	s
→	A	l	l		M	F	A	s												
→	S	w	i	t	c	h	i	n	g		p	r	o	g	r	a	m			
→	S	e	t		c	l	o	c	k											
→	A	n	n	u	a	l		t	a	b	l	e								
→	S	u	m	m	e	r	-	/	w	i	n	t	e	r	t	i	m	e		
→																				

M	E	N	U		3				→	N	e	x	t		p	a	g	e	s	
→	P	a	r	a	m	e	t	e	r		s	e	r	v	i	c	e			
→	G	r	.	n	o	.	/	c	h	a	r	a	c	t	e	r		s	e	t
↑	G	e	r	m	a	n														
→	V	e	r	s	i	o	n													
→																				
→																				
→																				

Go to the next or the previous menu by:-
- pressing the ESC key repeatedly, or
- pressing the ← key several times until the → symbol is activated at 'Next pages'. You can then press either ↑ to select the next menu or ↓ to choose the previous one.

6.6 The menu items explained

6.6.1 MENU 1

6.6.1.1 Password

Switching and positioning commands can be issued – i.e. the 'Switching commands with FB (feedback signals)' (MENU 1) and 'Setpoints/Positioning values' (MENU 2) functions – are possible only after the correct password has been entered.
The same applies to the functions:-

- Change/delete password
- Set clock
- Annual table
- Summer-/winter time
- Sub-menus for the 'Switching program' function

You reach the password function in MENU 1 by pressing the ← and → keys, and then confirming with ↵.

The following input mask appears:-

M	e	n	u					P	A	S	S	W	O	R	D	
								0	0	0	0					
								↑	↑	↑	↑					
→		E	n	t	e	r										
→		C	h	a	n	g	e									
→		D	e	l	e	t	e									

The nova240 is supplied ex works with the password set at 0000.

You can adopt this password unchanged for you system; enter it once as soon as the manual operating unit has been plugged in. The operations described above are then possible until the nova240 is taken out of service or until the illumination is switched off.
Using the ← or → keys, position the cursor at the four input places, each of which bears the figure 0. A further press of the → key leads you to the → 'Input' function.
Now confirm the **0000** combination of figures by pressing the ↵ key.
If no-one has changed the password from the factory setting, the word VALID appears in the display.
If you want to work with your own password in your system, you can enter it via the *Change* menu item, on condition that you have entered once before the password that was valid previously. Now choose the password function again and enter the desired password. After having entered the 'ones', press the → key twice. You then reach the *Change* function. Confirm by pressing ↵; the word CHANGED then appears.

The *Delete* function

This allows you to end the password's period of validity, which normally expires 7.5 minutes after the last button has been pressed, i.e. for the same length of time as the illumination is active.
Use 'Delete' to end the authorisation rights immediately.

Press → until the → *Delete* function is activated.
Confirm this by pressing ↵; the word DELETED then appears.

6.6.1.2   Address reset

In the case of the functions described later, measured values, alarms etc. are shown in alphanumerical order of the house address, i.e. A comes before B, 1 before 2, A5 before B3 etc.
The automation station saves the last piece of information (that you viewed) with its alphanumerical house address and, when the function is called up again, continues the portrayal from there (or, in the case of another type of data point, from the following 'house address' of the new category).
If, when choosing a data point, you want to start right from the beginning again, then choose the menu item *Address reset* and confirm with ↵.
The entry is confirmed by a jump from → to the following function.

6.6.1.3   Portrayal of data points

Alarms/faults
Status + binary feedback signals
Measured values
Counter values

These four menu items permit you to view all associated data points after you have chosen a data-point category.
Using the ← or → keys, select the preferred type of data point and confirm with ↵.
If you have performed an 'address reset' beforehand, the value/status of the alphanumerically lowest house address is shown, otherwise the address at which you left the menu the last time. Use ↑ and ↓ to leaf through the chosen data-type category.
You exit this function with the **Esc** key, then return to the menu and can now choose another type of data point by using the ← and → keys.

Example for 'Measured values'.

→	M	e	n	u				↑	M	E	A	S	.	V	A	L	U	E
H	o	u	s	e		a	d	d	r	e	s	s						
A	d	d	r	e	s	s		t	e	x	t							
								+	2	1	.	5	0		°	C		

6.6.1.4   Switching commands with FB (feedback)

You obtain this function, after choosing MENU1, by pressing the key → (press once or several times) and confirming with ↵.

The following appears (example):-

→	M	e	n	u				↑	S	W	.		C	O	M	M	A	N	D
H	o	u	s	e		a	d	d	r	e	s	s							
A	d	d	r	e	s	s		t	e	x	t								
→	A	U	T		→		0		→		I			→		II			
L	O	C	A	L															
	A	U	T	H	O	R	I	S	A	T	I	O	N		N	E	E	D	E	D

First use the ← or → keys to choose the address.
The prevailing switching condition (feedback) is shown by an underscore – in the above example, it is I (level I) – and, if parameterised accordingly, either AUT or LOCAL is underlined, which tells you whether the condition was caused by local operation or by the relevant output on the automation station (AUT).
If you want to change a switching status (which is possible only on those switching levels marked with →), you can use the ← or → keys to choose the switching level (the symbol → at the relevant level is then marked) and confirm with ↵. If you have entered the correct password beforehand as per the 'Password' function in Menu 1, the command is issued by the automation station, otherwise the message 'AUTHORISATION NEEDED' appears.

6.6.2 MENU 2

6.6.2.1   Setpoints/positioning values

Use the **Esc** key to obtain MENU 2. Then, using the ← or → keys, choose the relevant function and confirm with ↵.

The following then appears:-

→	M	e	n	u				↑	S	E	T	P	/	P	O	S	V	A
H	o	u	s	e		a	d	d	r	e	s	s						
A	d	d	r	e	s	s		t	e	x	t							
												V	a	l	u	e		
C	h	a	n	g	e		v	a	l	u	e	:						
+	/	-			#	#	#	.	#	#		R	O		A	U	T	
					↑	↑	↑		↑	↑		↑			↑			

Using the ↑ or ↓ keys, choose the relevant house address and confirm with ↵.

The last value to be commanded is shown. In the case of setpoints, it is shown as an absolute value with unit of measurement, e.g. 21.5 °C; in the case of positioning values (valves, dampers), they are shown in standardised form from 0.000...1.000, equivalent to 0...100 with % shown as the unit of measurement.
In the case of positioning values, you can see the operating mode, i.e. whether the positioning value is coming from a control module (therefore Automatic) – in which case, AUT appears – or whether the value shown emanates from the manual operating unit, and that operating mode still applies. In this field, AUT (without underscore) appears.
If you want to change the value, press the ← or → keys and choose the preferred input position within # # #.# # in each case.

Using the ↑ and ↓ keys, enter the desired figure for every position. This is accepted by the automation station **immediately**, without you having to press the ↵ key.
By pressing the → key again, you obtain the functions R0 and AUT, each of which is activated by the ↵ key.
R0 denotes: Reset 0, i.e. you can set the value entered directly to 0 and, therefore, start from the beginning again.

For positioning values only:-
AUT denotes: you allow the station's internal control system to assume control over the value entered. The displayed value stays at the last value that was issued.
The Automatic condition is indicated by an underscore, i.e. AUT.

If, in Menu 1, you have entered either the wrong password or none at all, the message AUTHORISATION NEEDED appears.

6.6.2.2   All MFAs

MFA is the abbreviation for machine fine address. Usually, you work not with the system's internal name for the data points, but with the so-called 'house address', which describes the data point from the user's point of view in accordance with mnemonic aspects using 24 characters.
In the 'All MFAs' menu item, the data points appear in alphanumerical order and are mixed across all types of data point.
To select the address, press the ↑ or ↓ key (↑ = forwards; ↓ = backwards). If a generated house address is found during the search, but it does not have a meaningful parameterisation, then 'All MFAs' instead of the data-point category (↑ ALARM, ↑ MEASURED VALUE,...) appears in the header.

6.6.2.3   Time-based switching program

Normally, the automation station already has a time-based switching program. This has been loaded either by the DigiCom-Tool or by the DigiMaster user panel.
Using the manual operating unit, you can view the time-based switching program and, if necessary, change it. There are five masks available for this:-

*   Overview
*   EDIT (protected by password)
*   HELP 1, HELP 2, HELP 3

    HELP 1 explains how to enter annual, monthly and daily codes
    HELP 2 provides further explanations on the daily code and notes on the hourly code.
    HELP 3 explains special minute codes.
    By repeatedly pressing the ↵ key, you can call up the help texts H1, H2, H3, H1,... one after the other.

6.6.2.3.1 View program

By pressing **Esc** once or several times, choose MENU 2 and then, by pressing the →
key, choose the time-based switching program. Confirm with ↵.

The **switching commands** then appear:-

→	M	e	n	u		↑	A	d	r		↑	P	l	a	c	e	:			
H	O	U	S	E		A	D	D	R	E	S	S								
A	D	D	R	E	S	S		T	E	X	T									
Y	Y		M	M		D	D		h	h		m	m				M	F	A	
	-			-			-			-										
S	W	.	C	O	M	M	A	N	D	:										
→	E	D	I	T										→	H	E	L	P		

The shaded fields show where variables – such as memory location, text, date and time
information, the machine fine address etc. – are shown.

The following then appears at **Positional commands**:-

→	M	e	n	u		↑	A	d	r		↑	P	l	a	c	e	:			
H	O	U	S	E		A	D	D	R	E	S	S								
A	D	R	E	S	S		T	E	X	T										
Y	Y		M	M		D	D		h	h		m	m				M	F	A	
	-			-			-			-										
→	E	D	I	T										→	H	E	L	P		

Content of the penultimate line (depending on the memory location chosen):-
- AUT in the 'From control module' operating mode, the unit of measurement (e.g. °C)
  then appears at the far right.
- Abs: or Rel: default value including unit of measurement.

N.B.:
The complete mask does not appear unless you have chosen (at 'Place') a memory
location that is linked to the chosen address.
If the 'Adr' function is chosen (denoted by the ↑ in bold type), you can, using the ↑ and ↓
keys, view all APC-type – i.e. the switching- and positioning-command addresses gen-
erated accordingly – one after the other.

The following are shown:-
- The house address
- The address text
- The station's internal associated MFA
- Place 000...319 in the program memory, plus
  - the date/time information
  - the associated switching or positioning command

Within the chosen address you can use the → key to choose the 'Place:' function, and
the ↑ and ↓ keys to view all the functions already programmed for this address (date,

time, command). If you choose 'Place:' and press the ↑ key, the first program place at which there is an entry for the selected address is chosen immediately.

6.6.2.3.2   Change program

If you wish to change or add commands, choose the 'Edit' function by pressing → several times, and then confirm with ↵.

At **Switching commands**, the following input mask appears:-

A	P	C							E	d	i	t			
→	O	v	w		→	H	e	l	p			→	D	e	l	e	t	e
→	B	C	m		x	x						→	S	P		-	-
↑	P	l	.	/		→	S	p	a	r	e	/	→	R	0	:
	Y	Y			M	M			D	D			h	h		m	m
↑				↑				↑				↑			↑
S	w	.	c	o	m	m	a	n	d	:
												↑

It can be seen in the third line that the address is a **b**inary **com**mand address in accordance with the generation (BCm xx). It is not possible to state a setpoint (SP --). If an MFA ever needs to be able to process both binary commands and setpoints, and to edit a spare place, the operating mode can also be chosen by the manual operating unit. To do so, use the → and ← keys to put the input mask to the relevant operating mode BCm or SP, enter the desired operating mode and confirm with ↵.

At **Positioning commands**, the following mask appears:-

A	P	C							E	d	i	t			
→	O	v	w		→	H	i	l	f	e		→	D	e	l	e	t	e
→	B	C	m		-	-						→	S	P		x	x
↑	P	l	.	/		→	S	p	a	r	e	/	→	R	0	:
	Y	Y			M	M			D	D			h	h		m	m
↑				↑				↑				↑			↑
A	U	T													
↑				→	R	e	s	e	t		↑	↑	↑	.	↑	↑

In the penultimate line, UT appears for setpoint/positioning value from control loop
Abs to set an absolute value, e.g., 21.5 ℃ Rel to set a relative value, e.g. as setpoint correction +/-.
To do this, you must either have chosen a location in the overview menu that contains a positioning command for this address or choose such a location in row 4.
To set the value, both absolute and relative, the value entered in row 9 at the input positions ↑↑↑.↑↑ appears to the right in row 8. In AUT mode, only the unit of measurement (e.g. ℃) is there.
When choosing Abs. or Rel, you can set a value after having selected the particular input position in row 9. This is accepted **directly**, without you having to confirm with ↵.

This default value is set to 0 by choosing the → Reset function and confirming with the ↵ key.

Position the cursor to Pl. (place in the program memory, or memory location) and use the ↑ and ↓ keys to choose the already-programmed inputs.

The memory location that you have selected is shown at R0:. If, when there are a lot of locations, you want to return quickly to the first location of the program memory, use the ← and → keys to choose the → R0 (Reset 0) function, and then confirm with the ↵ key.

If you wish to change the shown program step, position the input cursor accordingly and enter the new item of information directly, without using the ↵ key.

6.6.2.4 Set clock

The automation station (AS) can handle numerous time- and date-based functions.

The menu item described here allows you to set the clock in the automation station accurate to the second. It then runs with the precision of the automation station's quartz.

Using **Esc**, choose MENU 2 and then, by pressing → several times, choose the function 'Set clock'. Confirm with ↵.

The following then appears:-

→	M	E	N	U			↑	S	E	T		C	L	O	C	K		
		Y	Y		M	M		D	D		h	h		m	m		s	s
		9	8	-	1	0	-	1	9		1	4	.	5	9	.	2	7
		↑				↑			↑			↑			↑			↑

Using the ← or → key, choose the cursor position; using the ↑ and ↓ keys, set the numbers. Each setting is accepted without you having to confirm with ↵.

6.6.2.5 Annual chart

You can assign a 'Special day' program (different to the actual weekday) to any day of the year. On this day, the program defined for the special day runs instead of the normal program. If, for instance, May 1st is a public holiday and falls on a Wednesday, and you want to run the same program as for Sunday, choose day code 7 for May 1st.

Input:
Using **Esc**, choose MENU 2 and, by pressing → several times, the function → 'Annual chart'. Confirm with ↵.

The following then appears:-

→	M	e	n	u				A	N	N	U	A	L		C	H	A	R	T
	Y	Y	:		→	1	3	5	7	9		/		M	M	:		↑	
	C	h	a	n	g	e		d	a	y		c	o	d	e	:			
	D	a	y	:															
1	.	-	7	.			→		→		→		→		→		→		→
8	.	-	1	5	→		→		→		→		→		→		→		→
1	6	-	2	3	→		→		→		→		→		→		→		→
2	4	-	3	1	→		→		→		→		→		→		→		→

Now use → to choose the function YY (year).

By pressing ↑ or ↓, you have the choice between even and odd years (13579 or 02468). This allows you to decide whether the entries should apply for the current or the following year.

By pressing → move on to the month selection MM, and use ↑ or ↓ to choose the month that you wish to edit (01, 02, ...12).

By pressing → accordingly, select the relevant day in the four lines 1. - 7./8. - 15./16. - 23. and 24. - 31., and then use the ↑ and ↓ keys to set the day code 1 ... 7 (denoting Monday to Sunday).

The additional input options are as follows:-

0: Daily
8: Special day 1
9:
A:
B:
C:
D:
E:
F: Special day 8

Confirm the entry with ↵. If the password is incorrect, or if no password has been stated, AUTHORISATION NEEDED appears in the display.

N.B.: This annual chart applies to the whole automation station.

6.6.3 MENU 3

The menu has the following functions:-

M	E	N	U	3				→	N	e	x	t		p	a	g	e	s	
→	P	a	r	a	m	e	t	e	r		s	e	r	v	i	c	e		
→	G	r	.	n	o	.	/	C	h	a	r	a	c	t	e	r		s	e	t
↑	L	a	n	g	u	a	g	e											
→	V	e	r	s	i	o	n												

6.6.3.1   Gr. no. (group number)/Character set

In MENU 3, called up via the **Esc** key, choose this function by pressing → several times.

The following then appears:--

→	M	e	n	u															
G	r	.	n	o	.	H	e	x	:										
	'	"	#	°	%														
0	1	2	3	4	5	6	7	8	9										
						e	t	c	.										
													ö	ü					

In the second row, the automation station's group number is shown as a hexadecimal. Below this are the characters, in accordance with the language chosen.

6.6.3.2 The Language function

In MENU 3, choose the third function by pressing the → key several times and confirming with ↵.
Using the ↑ (forwards) or ↓ (backwards) keys, you can choose the language provided in the automation station for the menus. Apart form German, French and English, other languages, such as Italian, Dutch etc., are available. The language chosen is accepted **immediately**, without you having to press the ↵ key.
You will also notice that the menu in which you choose the language is itself immediately shown in that language.

6.6.3.3 Version

In MENU 3, choose this function by pressing the → key several times and confirming with ↵.
Information concerning the microprogram's index and the software's version is then shown.

7 Glossary

Abbreviations and terminology

ActiveX		Microsoft technology for software components which can be used by other programmes
AS	Automation station	Programmable device that can be used for control and regulation.
BACnet	Building Automation Control Network	Interface standardised by ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineering) for building automation. Specially geared to the management and automation levels.
Cache		A local copy of data which have been downloaded from a remote host to reduce access time
CASE	Computer Aided Sauter Engineering	Software tools for design engineering, development and documentation.
CASE FBD	Function Block Diagram	Function Block Diagram editor to programme automation stations.
CGI	Common Gateway Interface	A standard technology for data exchange between the client's web browser and the programme that is running on the web server.
Client		The client (workstation or application) is provided with data, memory and resources from a server (computer in a network or application).
Cookie		Cookies transfer information from the web server to the client, e.g. for identification purposes (session management)
CSD	Circuit Switched Data	Circuit Switched Data is the standard circuit switched data transmission for GSM at 14.4 kBit/s, traditionally used for voice transmission.
CSV	Comma Separated Values	A tabular data format which uses delimiters (commas, tabs, semicolons, etc.) to separate fields.
DB9		The 9-pin SubD connection is standard for RS232 connections. (DB25 with 25 pins is also very widespread).
DCE	Data Communication Equipment	Something similar to a modem.
DDE	Dynamic Data Exchange	Protocol for dynamic data exchange between independent applications.
Debug		Special operating mode for fault-finding.
DNS	Domain Name System	In a 'Domain Name System', the IP addresses of all hosts and servers are stored and made available to transmit information from one or more computers.

DTE	Data Terminal Equipment	Something similar to a PC.
ecos		Individual room control system in the EY system family.
EPROM	Erasable Programmable Read Only Memory	Non-volatile data memory (Chip). The stored data are preserved even if there is a power failure.
Remote island		Subnet that is not connected to the rest of the network directly via novaNet, but via a modem connection (for example).
Firewall		Facility set up via software and hardware to protect a LAN against attacks from the Internet.
GMT	Greenwich Mean Time	Greenwich Mean Time is the time at 0 degrees geographic longitude (at Greenwich near London, UK). International time information is normally stated in relation to GMT.
GPRS	General Packet Radio Service	General Packet Radio Service is a packet switched data transmission which is much faster than CSD (also up to 56 kBit/s). Theoretically, the connection is constantly present, but you only pay for the actual data volume.
GSM	Global System for Mobile Communication	Worldwide standard for mobile telephony.
House address		Unique designation of an object within the building management system. The house address can be assigned freely. For engineering purposes, a system for assigning house addresses is usually specified.
HDB	Historical DataBase	The HDB stores the values of a house address for later evaluation.
HSCSD	High Speed CSD	Bundles several CSD transmission channels together to allow higher transmission rates (normally up to 56 kBit/s).
HTML	HyperText Mark-up Language	Mark-up language for web pages (used to mark up links).
HTTP	HyperText Transfer Protocol	HyperText Transfer Protocol is the protocol used to transfer HTML-based web pages over a TCP/IP connection.
Internet		The largest computer network in the world, comprising many interlinked networks. The most important services are: electronic post (e-mail), hypertext-based content (WWW), file transfer (FTP) and discussion forums (Usernet / Newsgroups).
Intranet		An internal company network that draws on Internet technology and is set up on in-company servers. In most cases, connection to the Internet is via a 'Firewall' (protective wall), that protects the Intranet against unauthorised access from the Internet.

ISDN	Integrated Services Digital Network	Standard for digital telephone communication.
ISO	International Organization for Standardization	International non-governmental standard-setting organization
IT		Information technology
Java / JavaScript		Programming language for hypermedia documents. To run Java programmes, a 'Java Virtual Machine' is needed. These are built into widespread WEB browsers nowadays. In this way, Java programmes can be run on any computer, regardless of its hardware and operating system.
LAN	Local Area Network	Network that is set up locally and connected via Ethernet. 'Local' refers here to a common location such as a company site or a room.
LED	Light Emitting Diode	Semiconductor which lights up when the device is operating or when a signal is active.
LON	Local Operating Network	Field bus system that is based on a network of decentral nodes with their own intelligence. Communication is based on the LonTalk protocol. Compatibility of different manufacturers' products is certified by LONMARK certification.
MFA	MachineFineAddress	Datapoint address within an automation station.
nova240		Manual user panel for on-the-spot operation of the EY3600 nova automation station.
novaCom		Interface to integrate non-Sauter bus systems into the EY3600 system at automation level.
novaNet	EY3600 system bus	Serial bus system with free topology, based on a twisted two-wire line, used to network AS and PC. The participants (who have equal rights) exchange the data in cross-traffic according to the 'Peer to Peer' principle.
novaNet290	novaNet bus controller	Connection from a PC to the EY3600 novaNet system bus via ISA bus.
novaNet291	novaNet router	Connection from a PC to the EY3600 novaNet system bus via RS232 interface.
novaPro Open		Management system for complex installations and system integration. Drivers for the integration of non-Sauter systems and database connections via ODBC, DDE, SQL and OPC allow vertical as well as horizontal integration of a wide variety of sub-processes in a building. Information is made available locally as well as globally via the WEB technology it contains.
novaPro32		Visualisation and operating software for the EY3600 system.
Zero modem cable		A special RS232 cable to connect two DTE units (as opposed to the usual cable to connect

		one DTE and one DCE unit)
OPC	OLE for Process Control	Standardised software interface for data exchange between automation systems.
OS	Operator Station	PC used as an operating position.
PDA	Personal Digital Assistant	Hand-held devices which usually include an organizer, some viewer programmes and further programmes.
PDM	Process Data Manager	PC that contains the connection to the automation level system bus.
Peer-to-Peer		Communication model where each participant can initiate the communication with equal rights (as opposed to master-slave).
Proxy		A proxy server supplies the data (usually Web pages) which the client requests for the cache memory.
RAM	Random Access Memory	Volatile memory used to store programmes and data during execution (as long as the device is running).
Routel		Connection between a remote AS island and a PC via modem
Router		A router connects two networks; it forwards the data between the networks.
RS232		RS232 is a standard format for exchanging serial data.
RT	Real Time Clock	Real Time Clock
Server		The server (computer in a network or application) provides the clients (workstations or applications) with data, memory and resources.
SIM	Subscriber Identity Module	Card on which a code is stored to identify a mobile phone (GSM) subscriber.
Smart phone		Hand-held devices which combine the functions of PDAs and mobile telephones.
SMS	Short Message Service	A service available on most mobile phones to transfer short text messages of up to 140 bytes.
Symbian		Operating system developed by the Symbian company, used mainly for small hand-held devices such as smart phones or PDAs.
TCP/IP	Transmission Control Protocol / Internet Protocol	The Internet Protocol (IP) is used to fragment and address data, which it transmits from the sender to the recipient. The Transmission Control Protocol (TCP) ensures that the packets are sorted in the correct sequence when they reach the recipient; it safeguards communication by confirming reception of the packets.
UMTS	Universal Mobile Telecommunications System	New (third-generation) mobile phone technology.

URL	Uniform Resource Lo-cater	A standardized address for most resources on the Internet
WAN	Wide Area Network	A WAN is a network that can be set up throughout the world (but at least, it must go beyond your own four walls).
WEB	from 'World Wide Web'	Service in the Internet featuring a high level of user-friendliness and multimedia elements.
WEB browser		Examples: Microsoft Internet Explorer, Mozilla or Netscape Navigator, etc.

For detailed information, we recommend web encyclopaedias such as Wikipedia.
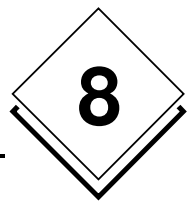
8 Further documentation

You will find the currently available EY3600 manuals here, with their respective manual numbers:
- XXX=001=German
- XXX=002=French
- XXX=003=English

DigiNet DN5	EY3600	Manual no.
DigiCom	novaPro32 Operating Manual	**7 000 894 - XXX**
	novaPro32 Configuration	**7 000 904 - XXX**
	novaPro32 Installation	**7 000 915 - XXX**
DigiWeb	novaWeb User Manual	**7 001 049 - XXX**
	novaWeb Quick Start Guide	**7 001 057 - XXX**
	novaWeb Configuration Manual	**7 001 056 - XXX**
	novaWeb Programming Manual	**7 001 050 - XXX**
DigiMaster	EYT250 Configurator	**7 001 020 - XXX**
DigiBac	BACnet AS Operating Manual	**7 001 007 - XXX**
Miscellaneous	Product and system information	**7 190 000 - XXX**
	EY3600 System Description	**7 000 937 - XXX**
	First Steps	**7 000 931 - XXX**
	CASE FBD Editor Operating Instructions	**7 000 866 - XXX**
	Firmware Modules	**7 000 877 - XXX**
	Automation Stations Microprogram Description	**7 000 968 - XXX**
	nova240 Operating Manual	**7 000 848 - XXX**

9 Annexe

9.1 AS coding

Zone 1

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
1	DigiPlus	EYR203	-	1									0	0	0	0	0	0	1	1
	DigiUni	EYR209	1	1									0	0	0	1	0	1	1	1035
	DigiUni	EYR209	2	0									0	0	0	1	1	0	0	1036
	DigiUni	EYR209	3	1									0	0	0	1	1	0	1	1037
	DigiUni	EYR209	4	1									0	0	0	1	1	1	0	1038
	DigiUni	EYR209	5	0									0	0	0	1	1	1	1	1039
	DigiUni	EYR209	6	1									0	0	1	0	0	0	0	1040
	DigiUni	EYR209	7	0									0	0	1	0	0	0	1	1041
	DigiUni	EYR209	8	0									0	0	1	0	0	1	0	1042
	DigiUni	EYR209	9	1									0	0	1	0	0	1	1	1043
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2059
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	2060
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	2061
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	2062
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	2063
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2064
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2065
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2066
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	2067
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	4097

Zone 2

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
2	DigiPlus	EYR203	-	1									0	0	0	0	0	1	0	2
	DigiUnit	EYR209	1	1									0	0	1	0	1	0	1	1045
	DigiUnit	EYR209	2	1									0	0	1	0	1	1	0	1046
	DigiUnit	EYR209	3	0									0	0	1	0	1	1	1	1047
	DigiUnit	EYR209	4	0									0	0	1	1	0	0	0	1048
	DigiUnit	EYR209	5	1									0	0	1	1	0	0	1	1049
	DigiUnit	EYR209	6	1									0	0	1	1	0	1	0	1050
	DigiUnit	EYR209	7	0									0	0	1	1	0	1	1	1051
	DigiUnit	EYR209	8	1									0	0	1	1	1	0	0	1052
	DigiUnit	EYR209	9	0									0	0	1	1	1	0	1	1053
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	2069
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	2070
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	0	0	1	0	1	1	1	2071
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	2072
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	2073
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	2074
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	0	0	0	1	1	0	1	1	2075
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	2076
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	2077
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	4098

Zone 3

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
3	DigiPlus	EYR203	-	0									0	0	0	0	0	1	1	3
	DigiUnit	EYR209	1	1						0	0	0	0	0	1	1	1	1	1	1055
	DigiUnit	EYR209	2	1						0	0	0	0	1	0	0	0	0	0	1056
	DigiUnit	EYR209	3	0						0	0	0	0	1	0	0	0	0	1	1057
	DigiUnit	EYR209	4	0						0	0	0	0	1	0	0	0	1	0	1058
	DigiUnit	EYR209	5	1						0	0	0	0	1	0	0	0	1	1	1059
	DigiUnit	EYR209	6	0						0	0	0	0	1	0	0	1	0	0	1060
	DigiUnit	EYR209	7	1						0	0	0	0	1	0	0	1	0	1	1061
	DigiUnit	EYR209	8	1						0	0	0	0	1	0	0	1	1	0	1062
	DigiUnit	EYR209	9	0						0	0	0	0	1	0	0	1	1	1	1063
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	2079
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2080
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	2081
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	2082
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	2083
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	2084
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	1	2085
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	2086
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	0	0	1	0	0	1	1	1	2087
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	4099

Zone 4

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
4	DigiPlus	EYR203	-	1									0	0	0	0	1	0	0	4
	DigiUnit	EYR209	1	1						0	0	0	0	1	0	1	0	0	1	1065
	DigiUnit	EYR209	2	1						0	0	0	0	1	0	1	0	1	0	1066
	DigiUnit	EYR209	3	0						0	0	0	0	1	0	1	0	1	1	1067
	DigiUnit	EYR209	4	1						0	0	0	0	1	0	1	1	0	0	1068
	DigiUnit	EYR209	5	0						0	0	0	0	1	0	1	1	0	1	1069
	DigiUnit	EYR209	6	0						0	0	0	0	1	0	1	1	1	0	1070
	DigiUnit	EYR209	7	1						0	0	0	0	1	0	1	1	1	1	1071
	DigiUnit	EYR209	8	0						0	0	0	0	1	1	0	0	0	0	1072
	DigiUnit	EYR209	9	1						0	0	0	0	1	1	0	0	0	1	1073
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	2089
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	0	1	0	1	0	1	0	2090
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	0	1	0	1	0	1	1	2091
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	2092
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	0	1	0	1	1	0	1	2093
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	0	1	0	1	1	1	0	2094
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	0	1	0	1	1	1	1	2095
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	2096
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	2097
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	4100

Zone 5

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
5	DigiPlus	EYR203	-	0									0	0	0	0	1	0	1	5
	DigiUnit	EYR209	1	0						0	0	0	0	1	1	0	0	1	1	1075
	DigiUnit	EYR209	2	1						0	0	0	0	1	1	0	1	0	0	1076
	DigiUnit	EYR209	3	0						0	0	0	0	1	1	0	1	0	1	1077
	DigiUnit	EYR209	4	0						0	0	0	0	1	1	0	1	1	0	1078
	DigiUnit	EYR209	5	1						0	0	0	0	1	1	0	1	1	1	1079
	DigiUnit	EYR209	6	1						0	0	0	0	1	1	1	0	0	0	1080
	DigiUnit	EYR209	7	0						0	0	0	0	1	1	1	0	0	1	1081
	DigiUnit	EYR209	8	0						0	0	0	0	1	1	1	0	1	0	1082
	DigiUnit	EYR209	9	1						0	0	0	0	1	1	1	0	1	1	1083
	DigiEco	EYE202	1	1	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	2099
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	0	2100
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	0	1	1	0	1	0	1	2101
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	0	0	1	1	0	1	1	0	2102
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	2103
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	2104
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	0	0	1	1	1	0	0	1	2105
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	0	0	1	1	1	0	1	0	2106
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	0	0	1	1	1	0	1	1	2107
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	4101

Zone 6

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
6	DigiPlus	EYR203	-	0									0	0	0	0	1	1	0	6
	DigiUnit	EYR209	1	1						0	0	0	0	1	1	1	1	0	1	1085
	DigiUnit	EYR209	2	1						0	0	0	0	1	1	1	1	1	0	1086
	DigiUnit	EYR209	3	0						0	0	0	0	1	1	1	1	1	1	1087
	DigiUnit	EYR209	4	1						0	0	0	1	0	0	0	0	0	0	1088
	DigiUnit	EYR209	5	0						0	0	0	1	0	0	0	0	0	1	1089
	DigiUnit	EYR209	6	0						0	0	0	1	0	0	0	0	1	0	1090
	DigiUnit	EYR209	7	1						0	0	0	1	0	0	0	0	1	1	1091
	DigiUnit	EYR209	8	0						0	0	0	1	0	0	0	1	0	0	1092
	DigiUnit	EYR209	9	1						0	0	0	1	0	0	0	1	0	1	1093
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0	1	2109
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0	2110
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1	2111
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2112
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	2113
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	2114
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	2115
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	2116
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	2117
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	4102

Table 1 — Zone 7

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	1									0	0	0	0	1	1	1	7
	DigiUnit	EYR209	1	0						0	0	0	1	0	0	0	1	1	1	1095
	DigiUnit	EYR209	2	0						0	0	0	1	0	0	1	0	0	0	1096
	DigiUnit	EYR209	3	1						0	0	0	1	0	0	1	0	0	1	1097
	DigiUnit	EYR209	4	1						0	0	0	1	0	0	1	0	1	0	1098
	DigiUnit	EYR209	5	0						0	0	0	1	0	0	1	0	1	1	1099
	DigiUnit	EYR209	6	1						0	0	0	1	0	0	1	1	0	0	1100
	DigiUnit	EYR209	7	0						0	0	0	1	0	0	1	1	0	1	1101
	DigiUnit	EYR209	8	0						0	0	0	1	0	0	1	1	1	0	1102
	DigiUnit	EYR209	9	1						0	0	0	1	0	0	1	1	1	1	1103
7	DigiEco	EYE202	1	1	0	0	0	1	0	0	0	0	1	0	0	0	1	1	1	2119
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	2120
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	2121
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	1	0	0	1	0	1	0	2122
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	1	0	0	1	0	1	1	2123
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	0	2124
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	0	1	0	0	1	1	0	1	2125
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	0	1	0	0	1	1	1	0	2126
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	0	1	0	0	1	1	1	1	2127
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	4103

Table 2 — Zone 8

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	1									0	0	0	1	0	0	0	8
	DigiUnit	EYR209	1	1						0	0	0	1	0	1	0	0	0	1	1105
	DigiUnit	EYR209	2	1						0	0	0	1	0	1	0	0	1	0	1106
	DigiUnit	EYR209	3	0						0	0	0	1	0	1	0	0	1	1	1107
	DigiUnit	EYR209	4	1						0	0	0	1	0	1	0	1	0	0	1108
	DigiUnit	EYR209	5	0						0	0	0	1	0	1	0	1	0	1	1109
	DigiUnit	EYR209	6	0						0	0	0	1	0	1	0	1	1	0	1110
	DigiUnit	EYR209	7	1						0	0	0	1	0	1	0	1	1	1	1111
	DigiUnit	EYR209	8	1						0	0	0	1	0	1	1	0	0	0	1112
	DigiUnit	EYR209	9	0						0	0	0	1	0	1	1	0	0	1	1113
8	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	2129
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	2130
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	2131
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	1	0	1	0	1	0	0	2132
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	1	0	1	0	1	0	1	2133
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	1	0	1	0	1	1	0	2134
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	1	0	1	0	1	1	1	2135
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2136
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	0	1	0	1	1	0	0	1	2137
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	4104

Table 1 (Zone 9)

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
9	DigiPlus	EYR203	-	0									0	0	0	1	0	0	1	9
	DigiUnit	EYR209	1	1						0	0	0	1	0	1	1	0	1	1	1115
	DigiUnit	EYR209	2	0						0	0	0	1	0	1	1	1	0	0	1116
	DigiUnit	EYR209	3	1						0	0	0	1	0	1	1	1	0	1	1117
	DigiUnit	EYR209	4	1						0	0	0	1	0	1	1	1	1	0	1118
	DigiUnit	EYR209	5	0						0	0	0	1	0	1	1	1	1	1	1119
	DigiUnit	EYR209	6	0						0	0	0	1	1	0	0	0	0	0	1120
	DigiUnit	EYR209	7	1						0	0	0	1	1	0	0	0	0	1	1121
	DigiUnit	EYR209	8	1						0	0	0	1	1	0	0	0	1	0	1122
	DigiUnit	EYR209	9	0						0	0	0	1	1	0	0	0	1	1	1123
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	1	0	1	1	0	1	1	2139
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	0	1	0	1	1	1	0	0	2140
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	0	1	0	1	1	1	0	1	2141
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	1	0	1	1	1	1	0	2142
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	1	0	1	1	1	1	1	2143
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	2144
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	2145
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0	2146
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	0	1	1	0	0	0	1	1	2147
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	4105

Table 2 (Zone 10)

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
10	DigiPlus	EYR203	-	0									0	0	0	1	0	1	0	10
	DigiUnit	EYR209	1	0						0	0	0	1	1	0	0	1	0	1	1125
	DigiUnit	EYR209	2	0						0	0	0	1	1	0	0	1	1	0	1126
	DigiUnit	EYR209	3	1						0	0	0	1	1	0	0	1	1	1	1127
	DigiUnit	EYR209	4	1						0	0	0	1	1	0	1	0	0	0	1128
	DigiUnit	EYR209	5	0						0	0	0	1	1	0	1	0	0	1	1129
	DigiUnit	EYR209	6	0						0	0	0	1	1	0	1	0	1	0	1130
	DigiUnit	EYR209	7	1						0	0	0	1	1	0	1	0	1	1	1131
	DigiUnit	EYR209	8	0						0	0	0	1	1	0	1	1	0	0	1132
	DigiUnit	EYR209	9	1						0	0	0	1	1	0	1	1	0	1	1133
	DigiEco	EYE202	1	1	0	0	0	1	0	0	0	0	1	1	0	0	1	0	1	2149
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	0	1	1	0	0	1	1	0	2150
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	0	1	1	0	0	1	1	1	2151
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	2152
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	1	1	0	1	0	0	1	2153
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0	2154
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	1	1	0	1	0	1	1	2155
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	2156
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	1	2157
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	4106

Zone 11

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
11	DigiPlus	EYR203	-	1									0	0	0	1	0	1	1	11
	DigiUnit	EYR209	1	0						0	0	0	1	1	0	1	1	1	1	1135
	DigiUnit	EYR209	2	1						0	0	0	1	1	1	0	0	0	0	1136
	DigiUnit	EYR209	3	0						0	0	0	1	1	1	0	0	0	1	1137
	DigiUnit	EYR209	4	0						0	0	0	1	1	1	0	0	1	0	1138
	DigiUnit	EYR209	5	1						0	0	0	1	1	1	0	0	1	1	1139
	DigiUnit	EYR209	6	0						0	0	0	1	1	1	0	1	0	0	1140
	DigiUnit	EYR209	7	1						0	0	0	1	1	1	0	1	0	1	1141
	DigiUnit	EYR209	8	1						0	0	0	1	1	1	0	1	1	0	1142
	DigiUnit	EYR209	9	0						0	0	0	1	1	1	0	1	1	1	1143
	DigiEco	EYE202	1	1	0	0	0	1	0	0	0	0	1	1	0	1	1	1	1	2159
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	2160
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	1	1	1	0	0	0	1	2161
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	0	1	1	1	0	0	1	0	2162
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	0	1	1	1	0	0	1	1	2163
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	1	1	1	0	1	0	0	2164
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	1	1	1	0	1	0	1	2165
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	0	1	1	1	0	1	1	0	2166
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	0	1	1	1	0	1	1	1	2167
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	4107

Zone 12

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
12	DigiPlus	EYR203	-	0									0	0	0	1	1	0	0	12
	DigiUnit	EYR209	1	1						0	0	0	1	1	1	1	0	0	1	1145
	DigiUnit	EYR209	2	1						0	0	0	1	1	1	1	0	1	0	1146
	DigiUnit	EYR209	3	0						0	0	0	1	1	1	1	0	1	1	1147
	DigiUnit	EYR209	4	1						0	0	0	1	1	1	1	1	0	0	1148
	DigiUnit	EYR209	5	0						0	0	0	1	1	1	1	1	0	1	1149
	DigiUnit	EYR209	6	0						0	0	0	1	1	1	1	1	1	0	1150
	DigiUnit	EYR209	7	1						0	0	0	1	1	1	1	1	1	1	1151
	DigiUnit	EYR209	8	1						0	0	1	0	0	0	0	0	0	0	1152
	DigiUnit	EYR209	9	0						0	0	1	0	0	0	0	0	0	1	1153
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	2169
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	0	1	1	1	1	0	1	0	2170
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	2171
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	0	1	1	1	1	1	0	0	2172
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0	1	2173
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	0	1	1	1	1	1	1	0	2174
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	2175
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2176
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	2177
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	4108

Codierungsmerkmale / Codierung binär

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	1									0	0	0	1	1	0	1	13
	DigiUnit	EYR209	1	1						0	0	1	0	0	0	0	0	1	1	1155
	DigiUnit	EYR209	2	0						0	0	1	0	0	0	0	1	0	0	1156
	DigiUnit	EYR209	3	1						0	0	1	0	0	0	0	1	0	1	1157
	DigiUnit	EYR209	4	1						0	0	1	0	0	0	0	1	1	0	1158
	DigiUnit	EYR209	5	0						0	0	1	0	0	0	0	1	1	1	1159
	DigiUnit	EYR209	6	0						0	0	1	0	0	0	1	0	0	0	1160
	DigiUnit	EYR209	7	1						0	0	1	0	0	0	1	0	0	1	1161
	DigiUnit	EYR209	8	1						0	0	1	0	0	0	1	0	1	0	1162
	DigiUnit	EYR209	9	0						0	0	1	0	0	0	1	0	1	1	1163
13	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	2179
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	2180
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	2181
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	2182
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	2183
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	2184
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	2185
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	2186
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1	1	2187
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	1	4109

Codierungsmerkmale / Codierung binär

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	1									0	0	0	1	1	1	0	14
	DigiUnit	EYR209	1	0						0	0	1	0	0	0	1	1	0	1	1165
	DigiUnit	EYR209	2	0						0	0	1	0	0	0	1	1	1	0	1166
	DigiUnit	EYR209	3	1						0	0	1	0	0	0	1	1	1	1	1167
	DigiUnit	EYR209	4	0						0	0	1	0	0	1	0	0	0	0	1168
	DigiUnit	EYR209	5	1						0	0	1	0	0	1	0	0	0	1	1169
	DigiUnit	EYR209	6	1						0	0	1	0	0	1	0	0	1	0	1170
	DigiUnit	EYR209	7	0						0	0	1	0	0	1	0	0	1	1	1171
	DigiUnit	EYR209	8	1						0	0	1	0	0	1	0	1	0	0	1172
14	DigiUnit	EYR209	9	0						0	0	1	0	0	1	0	1	0	1	1173
	DigiEco	EYE202	1	1	0	0	0	1	0	0	0	1	0	0	0	1	1	0	1	2189
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	2190
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	1	2191
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	2192
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	1	2193
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	2194
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	1	0	0	1	0	0	1	1	2195
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	2196
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	1	2197
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	4110

Zone 15

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
15	DigiPlus	EYR203	-	0									0	0	0	1	1	1	1	15
	DigiUnit	EYR209	1	1					1	0	0	1	0	0	1	0	1	1	1	1175
	DigiUnit	EYR209	2	1					1	0	0	1	0	0	1	1	0	0	0	1176
	DigiUnit	EYR209	3	0					1	0	0	1	0	0	1	1	0	0	1	1177
	DigiUnit	EYR209	4	0					1	0	0	1	0	0	1	1	0	1	0	1178
	DigiUnit	EYR209	5	1					1	0	0	1	0	0	1	1	0	1	1	1179
	DigiUnit	EYR209	6	0					1	0	0	1	0	0	1	1	1	0	0	1180
	DigiUnit	EYR209	7	1					1	0	0	1	0	0	1	1	1	0	1	1181
	DigiUnit	EYR209	8	1					1	0	0	1	0	0	1	1	1	1	0	1182
	DigiUnit	EYR209	9	0					1	0	0	1	0	0	1	1	1	1	1	1183
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	1	0	0	1	0	1	1	1	2199
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	2200
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	1	0	0	1	1	0	0	1	2201
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	1	0	0	1	1	0	1	0	2202
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	1	0	0	1	1	0	1	1	2203
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	1	0	0	1	1	1	0	0	2204
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	1	2205
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	0	0	1	1	1	1	0	2206
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	0	0	1	1	1	1	1	2207
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	4111

Zone 16

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
16	DigiPlus	EYR203	-	1									0	0	1	0	0	0	0	16
	DigiUnit	EYR209	1	1					1	0	0	1	0	1	0	0	0	0	1	1185
	DigiUnit	EYR209	2	1					1	0	0	1	0	1	0	0	0	1	0	1186
	DigiUnit	EYR209	3	0					1	0	0	1	0	1	0	0	0	1	1	1187
	DigiUnit	EYR209	4	1					1	0	0	1	0	1	0	0	1	0	0	1188
	DigiUnit	EYR209	5	0					1	0	0	1	0	1	0	0	1	0	1	1189
	DigiUnit	EYR209	6	0					1	0	0	1	0	1	0	0	1	1	0	1190
	DigiUnit	EYR209	7	1					1	0	0	1	0	1	0	0	1	1	1	1191
	DigiUnit	EYR209	8	1					1	0	0	1	0	1	0	1	0	0	0	1192
	DigiUnit	EYR209	9	0					1	0	0	1	0	1	0	1	0	0	1	1193
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	2209
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	2210
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	1	0	1	0	0	0	1	1	2211
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	2212
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	2213
	DigiEco	EYE202	6	1	0	0	0	1	0	0	0	1	0	1	0	0	1	1	0	2214
	DigiEco	EYE202	7	0	0	0	0	1	0	0	0	1	0	1	0	0	1	1	1	2215
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	2216
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	0	1	0	1	0	0	1	2217
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	4112

Codierungsmerkmale / Codierung binär — Zone 17

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	0									0	0	1	0	0	0	1	17
	DigiUnit	EYR209	1	1						0	0	1	0	1	0	1	0	1	1	1195
	DigiUnit	EYR209	2	0						0	0	1	0	1	0	1	1	0	0	1196
	DigiUnit	EYR209	3	1						0	0	1	0	1	0	1	1	0	1	1197
	DigiUnit	EYR209	4	1						0	0	1	0	1	0	1	1	1	0	1198
	DigiUnit	EYR209	5	0						0	0	1	0	1	0	1	1	1	1	1199
	DigiUnit	EYR209	6	1						0	0	1	0	1	1	0	0	0	0	1200
	DigiUnit	EYR209	7	0						0	0	1	0	1	1	0	0	0	1	1201
	DigiUnit	EYR209	8	0						0	0	1	0	1	1	0	0	1	0	1202
17	DigiUnit	EYR209	9	1						0	0	1	0	1	1	0	0	1	1	1203
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	1	2219
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	1	0	1	0	1	1	0	0	2220
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	1	0	1	0	1	1	0	1	2221
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	1	0	1	0	1	1	1	0	2222
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	1	0	1	0	1	1	1	1	2223
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	0	2224
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	1	0	1	1	0	0	0	1	2225
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	1	0	1	1	0	0	1	0	2226
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	1	0	1	1	0	0	1	1	2227
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	4113

Codierungsmerkmale / Codierung binär — Zone 18

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	0									0	0	1	0	0	1	0	18
	DigiUnit	EYR209	1	1						0	0	1	0	1	1	0	1	0	1	1205
	DigiUnit	EYR209	2	1						0	0	1	0	1	1	0	1	1	0	1206
	DigiUnit	EYR209	3	0						0	0	1	0	1	1	0	1	1	1	1207
	DigiUnit	EYR209	4	0						0	0	1	0	1	1	1	0	0	0	1208
	DigiUnit	EYR209	5	1						0	0	1	0	1	1	1	0	0	1	1209
	DigiUnit	EYR209	6	1						0	0	1	0	1	1	1	0	1	0	1210
	DigiUnit	EYR209	7	0						0	0	1	0	1	1	1	0	1	1	1211
	DigiUnit	EYR209	8	1						0	0	1	0	1	1	1	1	0	0	1212
18	DigiUnit	EYR209	9	0						0	0	1	0	1	1	1	1	0	1	1213
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	1	0	1	1	0	1	0	1	2229
	DigiEco	EYE202	2	0	0	0	0	1	0	0	0	1	0	1	1	0	1	1	0	2230
	DigiEco	EYE202	3	1	0	0	0	1	0	0	0	1	0	1	1	0	1	1	1	2231
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	1	0	1	1	1	0	0	0	2232
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	1	0	1	1	1	0	0	1	2233
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	1	0	1	1	1	0	1	0	2234
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	1	0	1	1	1	0	1	1	2235
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	0	1	1	1	1	0	0	2236
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	0	1	1	1	1	0	1	2237
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	4114

Table — Zone 19

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	1									0	0	1	0	0	1	1	19
	DigiUnit	EYR209	1	1						0	0	1	0	1	1	1	1	1	1	1215
	DigiUnit	EYR209	2	0						0	0	1	1	0	0	0	0	0	0	1216
	DigiUnit	EYR209	3	1						0	0	1	1	0	0	0	0	0	1	1217
	DigiUnit	EYR209	4	1						0	0	1	1	0	0	0	0	1	0	1218
	DigiUnit	EYR209	5	0						0	0	1	1	0	0	0	0	1	1	1219
	DigiUnit	EYR209	6	1						0	0	1	1	0	0	0	1	0	0	1220
	DigiUnit	EYR209	7	0						0	0	1	1	0	0	0	1	0	1	1221
	DigiUnit	EYR209	8	0						0	0	1	1	0	0	0	1	1	0	1222
19	DigiUnit	EYR209	9	1						0	0	1	1	0	0	0	1	1	1	1223
	DigiEco	EYE202	1	0	0	0	0	1	0	0	0	1	0	1	1	1	1	1	1	2239
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	2240
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	2241
	DigiEco	EYE202	4	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	0	2242
	DigiEco	EYE202	5	1	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	2243
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	2244
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	1	1	0	0	0	1	0	1	2245
	DigiEco	EYE202	8	1	0	0	0	1	0	0	0	1	1	0	0	0	1	1	0	2246
	DigiEco	EYE202	9	0	0	0	0	1	0	0	0	1	1	0	0	0	1	1	1	2247
	DigiZone	EYE202	-	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	4115

Table — Zone 20

Zone	Gerätetyp	AS-Typ	Gerätenummer	Even Parity	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1	Resultierende AS-Nummer effektiv
	DigiPlus	EYR203	-	0									0	0	1	0	1	0	0	20
	DigiUnit	EYR209	1	0						0	0	1	1	0	0	1	0	0	1	1225
	DigiUnit	EYR209	2	0						0	0	1	1	0	0	1	0	1	0	1226
	DigiUnit	EYR209	3	1						0	0	1	1	0	0	1	0	1	1	1227
	DigiUnit	EYR209	4	0						0	0	1	1	0	0	1	1	0	0	1228
	DigiUnit	EYR209	5	1						0	0	1	1	0	0	1	1	0	1	1229
	DigiUnit	EYR209	6	1						0	0	1	1	0	0	1	1	1	0	1230
	DigiUnit	EYR209	7	0						0	0	1	1	0	0	1	1	1	1	1231
	DigiUnit	EYR209	8	1						0	0	1	1	0	1	0	0	0	0	1232
20	DigiUnit	EYR209	9	0						0	0	1	1	0	1	0	0	0	1	1233
	DigiEco	EYE202	1	1	0	0	0	1	0	0	0	1	1	0	0	1	0	0	1	2249
	DigiEco	EYE202	2	1	0	0	0	1	0	0	0	1	1	0	0	1	0	1	0	2250
	DigiEco	EYE202	3	0	0	0	0	1	0	0	0	1	1	0	0	1	0	1	1	2251
	DigiEco	EYE202	4	1	0	0	0	1	0	0	0	1	1	0	0	1	1	0	0	2252
	DigiEco	EYE202	5	0	0	0	0	1	0	0	0	1	1	0	0	1	1	0	1	2253
	DigiEco	EYE202	6	0	0	0	0	1	0	0	0	1	1	0	0	1	1	1	0	2254
	DigiEco	EYE202	7	1	0	0	0	1	0	0	0	1	1	0	0	1	1	1	1	2255
	DigiEco	EYE202	8	0	0	0	0	1	0	0	0	1	1	0	1	0	0	0	0	2256
	DigiEco	EYE202	9	1	0	0	0	1	0	0	0	1	1	0	1	0	0	0	1	2257
	DigiZone	EYE202	-	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	4116
-	DigiBac	EYK220	-	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8192

10 Document history

Version	Changed by	Changes made	Date
1.0	J. Sigg (Fr. Sauter AG)	First issue	26.08.2005
1.1	J. Sigg (Fr. Sauter AG)	Print screens English	08.12.2005
2.0	J. Sigg (Fr. Sauter AG)	Actualization chap. 2.1.4.1 corresponding to f the CD version PES5	07.07.2006
2.1	J. Sigg (Fr. Sauter AG)	System component 'DigiLan' purged	07.07.2006
2.2.1	J. Sigg (Fr. Sauter AG)	Integration of the system component "DigiS-ervice	25.07.2006
2.3	J. Sigg (Fr. Sauter AG)	Chapter 4 "DigiEasy" completed	25.07.2006
2.4	J. Sigg (Fr. Sauter AG)	Language-specific download DigiMaster adapted	25.07.2006
2.4.1	J. Sigg (Fr. Sauter AG)	Print-optimized version regarding Illustration2-2: Connection with novaNet	25.07.2006

11 Detailed table of contents