DESIGO™ PX
PXM20 operator unit
User's guide
Version 2.2
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1 About this manual

1.1 Target readers

This user guide is intended for those responsible for the HVAC plant in a building, and for other qualified staff, including service engineers. It is assumed that the users of the manual will have all the knowledge and skills needed to carry out the required tasks.

1.2 Revision history

This document replaces document CA1U9231 dated 08.2002.

The changes are as follows:

<table>
<thead>
<tr>
<th>Changes</th>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screenshots updated to software V2.2</td>
<td>Throughout manual</td>
<td></td>
</tr>
<tr>
<td>Enhancement: “Audible signal”</td>
<td>2.1.2</td>
<td>11</td>
</tr>
<tr>
<td>Enhancement: “Event Popup”</td>
<td>3.3.7</td>
<td>22</td>
</tr>
<tr>
<td>Enhancement: “Wink command”</td>
<td>11.2</td>
<td>63</td>
</tr>
</tbody>
</table>

1.3 Contents

The manual starts with a description of the display and control panel of the PXM20 operator unit and presents the procedures for navigation and for editing values, which are always the same. The second part of the manual leads you step by step through the various activities involved in commissioning and maintaining the plant.

As there may be significant differences between one plant and another, and between the read and write access of one user and another, it follows that it is not possible to provide a description which is generally applicable to every individual case.

"Favorite" objects, for example, are special objects containing important values, which can be accessed with a short-cut operation. The question of exactly which objects
and which values these are, is determined in the engineering phase according to the individual needs of the plant operator.

**Important** For this reason, the descriptions in this manual are intended as examples, designed to clarify the basic operating principles of the PXM20 operator unit.

### 1.4 Printing conventions

#### 1.4.1 Text

**Bold** text is used for text exactly as it appears in the display, e.g. `START`, `ACKNOWLEDGE`, `Settings` etc.

#### 1.4.2 Keys

Keys are shown as follows:

- Key names that appear on the key itself are shown in angular brackets `< >`. This convention is used for the `< ? >` key (Info), and the `< − >` and `< + >` keys. *Example:* Press the `< ? >` key.

- The OK key and ESC key are referred to without brackets; their name is marked on the unit housing. *Example:* *Press the ESC key* or: *Acknowledge with OK*.

- The "direct access" keys are referred to as such. Their function is described neither on the keys themselves nor on the housing. *Example:* *Use the direct access key to go to the next value*.

- The same applies to the Page Up and Page Down keys. *Example:* *Go to the next dialog box using the Page Down key*. 

### 1.4.3 Notes

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Stop" /></td>
<td>Caution</td>
<td>The symbol shown here acts as a warning in cases where an action may result in permanent loss of data.</td>
</tr>
<tr>
<td><img src="image" alt="Info" /></td>
<td>Important</td>
<td>Particular attention should be paid to text marked with this symbol.</td>
</tr>
</tbody>
</table>

**Note**

A note qualifies an immediately preceding statement or statements.
2 Display and control elements

2.1 Housing

Figure 2-1 Housing

Key:
1. Display panel (Section 2.2)
2. Direct access keys (Section 2.1.3)
3. Alarm LED (Section 2.1.1)
4. Page Up & Page Down keys (Section 2.1.3.2)
5. OK key, <+> and <–> editing keys (Section 2.1.3.3)
6. ESC key (Section 2.1.3.4)
7. <?> key (Section 2.1.3.5)
2.1.1 Alarm LED

The alarm LED lights up or flashes when an alarm is tripped in the system. As soon as all alarms have been acknowledged, the LED stops flashing and remains on continuously. For further information on alarm signals refer to Section 7.

Exception

The LED does not flash in response to an event.

2.1.2 Audible signal

If the Buzzer is set to On under Settings (see Section 3.3.5), then any alarm requiring acknowledgement and/or a reset will be additionally accompanied by an audible signal. Alarms which do not require acknowledgement or reset are not accompanied by an audible alarm signal.

2.1.3 Keys

1.1.1.1 Direct access keys

An arrowhead symbol at the end of a line indicates that, for that line, you can use the associated direct access key to carry out a number of actions:

The direct access keys have a dual function.

- Navigation:
  Direct access to the view at the next level down.
  Refer to Section 5 for detailed instructions on navigating in the PXM20.

- Editing a value
  Your user access rights determine whether you can edit values, or only read them. Refer to Section 6 for detailed instructions on editing values in the PXM20.
2.1.3.2 Page Up and Page Down

If there are several pages in one display, use the Page Up and Page Down keys to change to the next or previous page. You can also use Page Up and Page Down in addition to the <+> and <--> keys to edit numerical values.

In pop-ups and dialog boxes, the symbols for Page Up and Page Down are used to indicate that there is too much text to display at once. Scroll up and down with these keys to display the whole text.

2.1.3.3 The OK key and the edit keys <+> and <-->

As soon as you access a value with the direct access key, the value concerned begins to flash, indicating that it can be edited with the <+> and <--> keys. Confirm each change by pressing OK. In addition to the <+> and <--> keys you can use Page Up and Page Down to edit numerical values.

The step-by-step procedure for editing is described in Section 6.

2.1.3.4 ESC key

By pressing the ESC key you can cancel any current process at any time (e.g. the editing of a value), change over to the dialog box of the next higher level or close a pop-up window.

Holding down ESC for more than 2 seconds ("Long Esc") closes all the active pop-up windows.
2.1.3.5 The info key <?>

Pressing the <?> key once takes you into "Info" mode. A question mark at the end of a line indicates that you can display information associated with this line. To do this, press the associated direct access key.

Pressing the <?> key again displays a dialog box with general information about the associated window.
2.2 Display

All the elements of a plant are shown in the display, with values or information which you can read or overwrite, depending on your user access rights. Figure 2-4 shows the layout of the display. The next section describes the areas of the display and the symbols used.

The keys used for navigation and editing are outside the display panel, and set into the housing itself. These keys are also described below in more detail.

Figure 2-4 Layout of the display
2.2.1 Title bar

The current level within the tree structure is shown at the top left of the display panel; this is marked with an arrow →. The current page and the total number of pages is shown on the right. The title bar is separated from the rest of the display with a horizontal line.

Siemens
Air handling unit 1/2

The example above shows page 1 of 2 of the dialog box for the Air handling unit.

2.2.2 Operator field

Below the title bar is the operator field, which may contain either several lines of alphanumerical text, or a graph.

A maximum of six lines of text can be displayed in the operator field. If there are more than this, the remaining lines appear on the next page.

Room device (18.1 °C)

An ellipsis (…) indicates that the text is too long to fit on the line.

Object name = Ahu‘PreHcl’Fo’…

To see the rest of the information, use the <?> key followed by the direct access key.

Each line comprises the following elements from left to right:

- Symbol
- Values, alarms, events, entries, functions, hierarchical elements etc.
- An arrowhead symbol, for values which you can edit.

Graphics

Trends and heating curves are displayed in graph form.
The button-field contains other functions or dialog boxes to which you can gain access by pressing the associated direct access key. Buttons are identified by upper case text in a box.

A "pop-up" is a dialog box used to display an alarm or an event. The ALARM VIEWER button provides direct access to the list of active alarms.
Dialog box

After a given action, a dialog box will appear, with a prompt which must be acknowledged before the required action is carried out or cancelled. Dialog boxes containing the relevant information are also displayed when you press the <?> key.

Figure 2-7 Dialog box with confirmation prompt
# 2.1.4 Symbols

The following is a list of all the symbols used in the display, and their meanings. The same symbol may represent different entries, or have a different meaning, depending on the context.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Arrowhead" /></td>
<td>Values on this line can be accessed with the direct access key directly to the right of the line.</td>
</tr>
<tr>
<td><img src="image" alt="Info" /></td>
<td>This line contains additional information about the highlighted object. The information appears when you press the Info key &lt;?. Refer also to Section 2.1.3.5.</td>
</tr>
<tr>
<td><img src="image" alt="Page" /></td>
<td>Page(s)</td>
</tr>
<tr>
<td><img src="image" alt="Scroll up" /> <img src="image" alt="Scroll down" /></td>
<td>Scroll up to display more information. Scroll down to display more information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Site" /></td>
<td>Site</td>
</tr>
<tr>
<td><img src="image" alt="Hierarchical element" /></td>
<td>Hierarchical element</td>
</tr>
<tr>
<td><img src="image" alt="Log-out" /></td>
<td>Log-out</td>
</tr>
<tr>
<td><img src="image" alt="Favorites" /></td>
<td>Favorites. These are defined in the engineering phase and contain frequently interrogated elements with simple operator access.</td>
</tr>
<tr>
<td><img src="image" alt="Group object (room automation)" /></td>
<td>Group object (room automation)</td>
</tr>
<tr>
<td><img src="image" alt="Command control" /></td>
<td>Command control</td>
</tr>
<tr>
<td><img src="image" alt="Power control" /></td>
<td>Power control</td>
</tr>
<tr>
<td><img src="image" alt="Input" /> <img src="image" alt="Output" /></td>
<td>Input. Output.</td>
</tr>
<tr>
<td><img src="image" alt="Operating parameters" /></td>
<td>Operating parameters</td>
</tr>
<tr>
<td><img src="image" alt="Value object" /></td>
<td>Value object</td>
</tr>
<tr>
<td>Symbols</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td><img src="image1" alt="Symbol" /></td>
<td>Interface variable</td>
</tr>
<tr>
<td><img src="image2" alt="Symbol" /></td>
<td>Calendar / Calendar entry</td>
</tr>
<tr>
<td><img src="image3" alt="Symbol" /></td>
<td>Trend</td>
</tr>
<tr>
<td><img src="image4" alt="Symbol" /></td>
<td>1. Time schedules</td>
</tr>
<tr>
<td><img src="image5" alt="Symbol" /></td>
<td>2. Set date and time</td>
</tr>
<tr>
<td><img src="image6" alt="Symbol" /></td>
<td>User-defined system settings</td>
</tr>
<tr>
<td><img src="image7" alt="Symbol" /></td>
<td>Alarming &amp; functions</td>
</tr>
<tr>
<td><img src="image8" alt="Symbol" /></td>
<td>Daylight savings</td>
</tr>
<tr>
<td><img src="image9" alt="Symbol" /></td>
<td>Global objects. Contain data which is globally available (within a given site, across automation stations)</td>
</tr>
<tr>
<td><img src="image10" alt="Symbol" /></td>
<td>Edit user</td>
</tr>
<tr>
<td><img src="image11" alt="Symbol" /></td>
<td>Add new users</td>
</tr>
<tr>
<td><img src="image12" alt="Symbol" /></td>
<td>Delete user</td>
</tr>
<tr>
<td><img src="image13" alt="Symbol" /></td>
<td>Change password</td>
</tr>
<tr>
<td><img src="image14" alt="Symbol" /></td>
<td>Device (Primary Server)</td>
</tr>
<tr>
<td><img src="image15" alt="Symbol" /></td>
<td>Device (Backup Server)</td>
</tr>
<tr>
<td><img src="image16" alt="Symbol" /></td>
<td>Wiring test (service engineers only)</td>
</tr>
<tr>
<td><img src="image17" alt="Symbol" /></td>
<td>Wink</td>
</tr>
<tr>
<td><img src="image18" alt="Symbol" /></td>
<td>Debug information (service engineers only)</td>
</tr>
<tr>
<td>Symbols</td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Alarms &amp; Events</td>
<td></td>
</tr>
</tbody>
</table>
| | 1 Alarm overview  
| | 2 Alarm and event history:  
| | Alarm for "Off Normal" or fault state; flashing indicates unacknowledged alarm  
| | Acknowledged alarm state  
| | Alarm for "Normal" state; flashing indicates unacknowledged state.  
| | Normal state not reset  
| | System event  
| | Acknowledged alarm or event in **Alarm & event history**  
| | Reset alarm or event in **Alarm & event history** |

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td></td>
</tr>
</tbody>
</table>
| | Work in progress  
| | Override (manually overwritten value)  
| | Life safety  
| | Plant security |
3 Settings

To be able to carry out settings and modifications, you must be in a site (see Section 4).

![Site overview](image)

Figure 3-1 Site overview

Open **Alarming & functions** for the current site.

This is where you will find all the entries which you use to modify settings in the system using your PXM20 operator unit.

![Alarming & functions](image)

Figure 3-2 Alarming & functions
3.1 System

3.1.1 Set time & date (system time)

| Note | You can only make time settings if a primary server has been defined in the network. |

The system time is always applicable to one site. To change the system time, proceed as follows:

1. Open **Alarming & functions > Set date & time** for the current site.

2. Set the required time using the direct access key adjacent to the numerical time display.

3. Confirm your input.
3.2 Daylight savings

This option is used to define the requirements for an automatic daylight savings time change.

1. Open Alarming & functions for the current site.
2. Select Set daylight savings

![Set daylight savings](image)

3. You can start by accepting or rejecting the current automatic summer time change.
4. You then define on what date and at what time summer time is to begin and end. The basic settings are the last Sunday in March at 0200 hours for the start of summer time and the last Sunday in October at 0300 hours for the end of summer time.

3.3 PXM20 operator unit

<table>
<thead>
<tr>
<th>Note</th>
<th>The procedure for defining or modifying settings in the PXM20 is always the same. It is therefore described here once only. The same procedure applies to Sections 3.3.1 … 3.3.15.</th>
</tr>
</thead>
</table>

1. Open Alarming & functions > Settings for the current site.
2 Select the required entry; the value will start flashing.
3 Configure the value as required.
4 Confirm your input.

### 3.3.1 Language

Select the language here. The basic setting is English.

### 3.3.2 Date and time format

Select either the American or the European date and time format.

### 3.3.3 Contrast

The display contrast can be set here:

### 3.3.4 Display long texts

Use this option to define whether or not a long text item should be displayed on two lines.
3.3.5 Buzzer

Use this option to specify whether or not alarms are to be indicated with an audible signal. This is only possible, however, provided that the alarms are displayed in pop-up windows. Audible signals are only available for alarms which require acknowledgement or acknowledgement and rest.

3.3.6 Alarm pop-up

Use this option to define whether or not alarms should be displayed in pop-up windows.

3.3.7 Event Pop-up

Use this option to define whether or not events should be displayed in pop-up windows.

3.3.8 Alarm text mode

1. This allows you to specify how alarms and events are to be displayed in the Alarm viewer and Alarm & event history.
2. If you select Description, a generic description of the object will be displayed.

3.3.9 Relogin

This setting enables you to specify that a user must log in again after the display saver has been switched on.
3.3.10 Display saver on

This option lets you define the time period (from 5 to 60 minutes in 5-minute increments) after which the display saver is to switch on.

3.3.11 Main value

This setting lets you specify that when operating the plant, the main value should appear at the end of the line for the object concerned.

3.3.12 Welcome window

Here you can define whether a "Welcome" window is to appear when a user logs in.

3.3.13 3rd party site

Use this option to specify whether or not third-party devices are to be operated with the PXM20.
3.3.14 Domain ID

Set the Domain ID for the PXM20 here.

<table>
<thead>
<tr>
<th>Domain ID length</th>
<th>Domain ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0x 49</td>
</tr>
</tbody>
</table>

![Figure 3-3 Domain ID](image)

**Important**
This setting should be modified only by fully trained staff.

3.3.15 Network scope

Specify here whether the PXM20 is to allow connections beyond the LON network.

**Important**
This setting should be modified only by fully trained staff.
4 Login and log-out

As soon as you connect the PXM20 operator unit to an automation station or to a connection point in the LON network, the "Start" window will appear in the display panel.

Figure 4-1 "Start" window

Press the direct access key adjacent to START.

4.1 Connecting to the network

A connection is established with the network. The PXM20 starts by looking for an automation station defined as the primary server.

The login procedure is in two steps:

1. Select a site.
If no sites are listed, this means that no automation station in the network has been defined as the primary server.

2. Select **RESCAN NETWORK** to look for all the devices on the network. In this case, access to the system is via an automation station defined as the back-up server.

3. Commissioning and service engineers can carry out a wiring test with the **WIRING TEST** option (see Section 11)

### 4.2 Login

1. Log in to the selected site with your user name and password.

2. You will then be asked to enter your password.
3. Select the required letters, numbers or characters and use the <+> key to enter them in the password field. These inputs can be deleted using the <–> key.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note that wildcard characters (*) are used to represent the password in the password field. You can cancel password entry at any time by pressing ESC.</td>
</tr>
</tbody>
</table>

4. Press OK to confirm the password entered.

Logging in to another site

Before you can log in to a new site, you must first log out from the current site (see the next section).

4.3 Logout

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you disconnect the PXM20 from the network without first logging out, this can temporarily impair the performance of the plant (e.g. by delaying the transfer of alarms). You should therefore always log off properly as described below.</td>
</tr>
</tbody>
</table>

Logging out with ESC

By repeatedly pressing ESC you can navigate to the top level. If you now press ESC again, a dialog box will be displayed in which you will be asked if you want to log off. Answer with Yes or No. Alternatively, instead of No, you can press ESC.
Logging off via Logout

1. Within the site, go to **Alarming & functions**.

2. **Logout**

3. Select **Logout**.

4. Confirm that you really do want to log out.

5. The site overview appears again (Figure 3-1).
5 Navigation

Tree structure
The navigation structure for the PXM20 operator unit is displayed as a tree structure.

Down one level
The arrowhead symbol at the end of a line indicates that you can move to a dialog box at the next level down, by pressing the associated direct access key.

Up one level
Press ESC to leave the current dialog box and move to a dialog box at the next higher level.

Closing windows
Press ESC to close pop-up windows and dialog boxes.

Moving from page to page
If there are several pages in one display, use the Page Up and Page Down keys to change to the next or previous page. The total number of pages is shown in the top right corner of the display:

1/10
6 Reading and editing values

In order to edit values, you must have Write access rights. If you only have Read access, you can view a value, but not modify it.

In the example below, the values which you can edit are indicated as follows:

Figure 6-1 Display and direct access keys

**Key:**

**Arrowhead**

The arrowhead symbol at the end of a line indicates that you have the necessary Write access rights to edit this value. You can use the direct access key to switch to Edit mode (press briefly) or to navigate to the next level down (sustained pressure). If there is no arrowhead symbol adjacent to any of the other values, this means that you have no access to these values.

**Direct access key**

To edit the value **Setpoint for cooling**, press the direct access key adjacent to the line concerned.
**Note**

As the procedure described below is always the same, it is only described once, in order to keep this manual as easy to read as possible. If you are required to edit a value in any subsequent routines, the procedure referred to is the one described here.

To keep the manual as clear as possible, the instruction "Press the direct access key" is not repeated.

Example: "Select the month and the year".

When editing always proceed as follows:

1. Press the direct access key adjacent to the required line. If you press the key briefly, the value will be displayed in inverse video ready for editing (see below). Sustained pressure on the direct access key allows you to navigate to the next level down (if there is one). Edit the required value with the <+>, <–> keys. Numerical values can also be edited using the Page Up and Page Down keys.
2. Acknowledge the changes you have made by pressing OK.
3. You can also acknowledge an input by pressing the direct access key itself.
4. If several values are displayed on one line, press the direct access key repeatedly, until no further values are displayed in inverse video.
6.1.1 Example: Setting a setpoint

Navigate to the value that you want to edit. Set the required value.

| Siemens | Air handling unit 1/2 | Operating mode manual | Plant control (Stage 1) | Room device 18.1 °C | Scheduler On | Setpoint for cooling 24.0 °C | Setpoint for heating 21.0 °C |

Figure 6-2 Setting a manual setpoint
6.1.2 Example: Editing the heating curve

The heating curve is used to determine the flow temperature setpoint for weather-compensated flow temperature control.

Two display formats

There are two ways of setting the heating curve values using the PXM20 operator unit. Either the main parameters can be displayed in graph form, or all the parameters, inputs and outputs can be displayed in list form.

Figure 6-3 Graphic view of heating curve

List view of heating curve

Select LIST VIEW for access to a list of all parameters, inputs and outputs.

Figure 6-4 Heating curve: list view, page 1
6.1.3 Forced control

"Forced control" applies to the process of setting inputs and outputs manually to a given value.

The inputs and outputs are edited in the normal way. As soon as you select the required value you will be prompted in a dialog box to confirm that you want to force this value.

Figure 6-6  Prompt for acknowledgement of forced control

You can use the direct access key to cancel the forced control in the dialog box again.

The forced control symbol is displayed after the input or output has been forced.
7 Alarms
7.1 Occurrence of alarms and events

Signals

Attention is drawn to the presence of alarms and events by use of pop-up windows (Figure 7-1). In the case of alarms requiring acknowledgement and/or reset, there is also an audible signal and the LED display starts flashing. The use of pop-up windows and audible signals for this purpose is optional and can be enabled in Settings (Section 3.3.6).

If a common alarm was set up in the engineering phase, you will be able to use the pop-up concerned to acknowledge and/or reset all the alarms “below” that hierarchical level.

Information in pop-up

The main information about the current event is displayed in a pop-up window:

![Alarm pop-up with unacknowledged alarm](image)

Figure 7-2 Alarm pop-up with unacknowledged alarm

The display shows a time stamp, the object name, the notification text and the alarm priority. In the case of alarm messages, you can display the Alarm viewer directly (see Section 7.2.1).
Symbols in the alarm pop-up

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔔</td>
<td>Unacknowledged alarm</td>
</tr>
<tr>
<td>🔔</td>
<td>Alarm state acknowledged</td>
</tr>
<tr>
<td>🔔</td>
<td>Normal state, existing alarm unacknowledged</td>
</tr>
<tr>
<td>🔔</td>
<td>Normal state, unreset (only used for Extended alarms. In such cases, reset the alarm.)</td>
</tr>
<tr>
<td>🔄</td>
<td>System event</td>
</tr>
</tbody>
</table>

Deleting a pop-up

Press ESC to delete a pop-up window without affecting the alarm or event.

Canceling audible signal

An audible signal can also be canceled by deleting the associated pop-up window with ESC.

7.2 Alarm acknowledgement

All alarms still requiring acknowledgement are listed in the Alarm viewer.

7.2.1 Displaying the alarm viewer

You can go to the Alarm viewer either from the Alarming & functions window, or display it directly from the alarm pop-up.
All recently received alarms are listed in this dialog box.
Each line consists of an alarm symbol, the object name or notification text, and the date and time.

**Tracking the alarm state**

The **Alarm viewer** tracks the state of an alarm as follows: If the alarm state changes (e.g. an alarm is acknowledged) the associated entry also changes.

**Note**

Note that for each object, only the current alarm, i.e. the last alarm received, is displayed.

When a fault has been cleared and acknowledged the relevant entry disappears from the list.

### 7.2.2 Selecting an event or alarm

1. Select the alarm which you wish to acknowledge. The **Alarm message** dialog box will appear.
2. You can now select either **ACKNOWLEDGE** or **DETAILS**.

The procedure for events is basically the same as for alarms. Unlike alarms, however, you do not need to acknowledge events.

### 7.2.3 Alarm acknowledgement /
Alarm & Event details

Select **ACKNOWLEDGE** to acknowledge the alarm. The **Alarm viewer** dialog box will re-appear (Figure 7-2).

By selecting **DETAILS** you can switch to a dialog box which provides more information about the object responsible for triggering the alarm or event, and which displays the priority of the alarm message.

![Figure 7-3  Alarm details](image)

![Figure 7-4  Event details](image)

**OBJECT PROPERTIES** lets you navigate directly to the alarm source. Press ESC to return to the **Alarm viewer**.

**Note**

Your user access rights will determine whether or not you have access to **Object properties**.

**Extended alarm**

After acknowledgement, Extended alarms will also need to be reset with the **RESET** option. You cannot do this until the object has returned to normal.
After the reset, you will be returned to the **Alarm viewer**.

### 7.3 Alarm & event history

Go to the **Alarming & functions** dialog box to display the **Alarm & event history**.

The **Alarm & event history** dialog box displays not only the current alarm, but all alarms which have occurred in conjunction with the selected object.

As with the **Alarm viewer**, a line consists of a symbol, the object name and the date and time.

The following information is displayed for a maximum of 30 entries:

- All the most recently received alarms
- The most recent alarm acknowledgements
• The most recent events

**Note**

Note that it is not possible to acknowledge or reset alarms in the **Alarm & event history**.

Unlike the **Alarm viewer**, the **Alarm & event history** only logs incoming alarms, but does not update the entries with any changes.

As with **Alarm viewer**, you can invoke an individual alarm or event here, and view the details.

**Symbols in the Alarm & event history**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔔</td>
<td>Unacknowledged alarm</td>
</tr>
<tr>
<td>🔔</td>
<td>Normal state, existing alarm unacknowledged</td>
</tr>
<tr>
<td>🕗</td>
<td>System event</td>
</tr>
<tr>
<td>✅</td>
<td>Acknowledged</td>
</tr>
<tr>
<td>🔄</td>
<td>Reset</td>
</tr>
</tbody>
</table>
8 Access rights

8.1 Introduction

There are seven user levels in the system. In the engineering process, each user group is defined with the associated Read and Write access rights (user level). Individual users are then assigned to one of these user groups.

8.2 Password

When the plant is handed over, you will be told which users have been set up, and notified of the associated passwords. Users can then change their own passwords to suit their own preferences. The procedure is as described in Section 8.5.

8.3 Adding new users

Members of a group are authorized to add new users to groups at a lower hierarchical level.

1. Within the current site, go to Alarming & functions and select User definition.
2. Select Add new user.
3 You will be prompted in the next dialog box to enter the user name:

4 Select the required characters and use the <+> key to enter them in the field. Use the <--> key, if required, to delete characters.

5 Acknowledge the user name with OK.

6 You will then be prompted to enter the password: Please enter the PASSWORD

7 Enter the required password and confirm with OK.

A list of all the information describing the newly defined user will now appear. You now have the option of modifying or adding to the information or settings:

8 **User group**
   Select the required user group.

9 **User visa**
   Select initials for the user you have defined.

10 **User scope number**
   (Scopes are not yet supported in Version 2.2.)
Answer the prompt to save the new user entry:

SAVE USER

The display will revert to the User definition dialog box.

### 8.4 Remove user

To remove a user, proceed as follows:

**Note**

You can only remove users at a lower level in the hierarchy.

1. In the current site, select **Alarming & functions > User definition**.
2. Select **Remove user**. The next dialog box displays a list of all the users which your access rights entitle you to delete.
3. Select the user to be removed.
4. Confirm your instructions in the next pop-up window.

### 8.5 Change password

To change your own password, proceed as follows:

1. In the current site, select **Alarming & functions > User definition**.
2. Select **Change password**. The following prompt will then appear:
3. **Enter OLD password:**
   Enter your old password and confirm with OK.
   The following prompt will then appear:
3. **Enter OLD password:**
   Enter your old password and confirm with OK.
4. **Enter NEW password:**
   Enter your new password and confirm with OK.
5. The change of password is confirmed in a pop-up window.
8.6 Edit user

Proceed as follows to change the data for a given user:

1. In the current site, select **Alarming & functions > User definition**.
2. Select **Edit user**.
   The next dialog box displays a list of all the users which your access rights entitle you to modify or delete.
3. Select the user, for which you want to edit the data.
4. Make the required changes and confirm them by selecting **SAVE USER**.
9 Setting time schedules

The Scheduler consists of a 7-day schedule and an exception schedule. You can use the scheduler to program the following:

- Time-dependent on/off switch control
- Time-dependent setpoint adjustment

In the 7-day schedule, you can define daily profiles to be repeated week after week. In the exception schedule, you define days which deviate from those defined in the 7-day schedule.

The names and locations of these time schedules are defined on a plant-specific basis. The following illustrations are examples only.

9.1 Scheduler

It is possible to define a particular profile for each day of the week within the 7-day schedule.

1. Navigate to the required scheduler.
2. Use the direct access key to select the required day of the week.

The selected day is marked with a rectangle (Monday in the example above). A graphics-based display of the selected day appears on the second line. You can select the individual switching points with the associated direct access
key. The next line displays the values for the selected switching point.

### 9.1.1 Editing the switching points

The exact time and the state which comprise the entry are shown on the next line, and can be selected for editing. Confirm your entry by pressing OK.

1. To change the schedule for this day, select **CHANGE PROGRAM**.

![Change Program Diagram]

2. Move from one entry to the next within the 24-hour schedule. The selected entry is marked by a small black arrow above the 24-hour schedule.
9.1.1.1 Editing an existing entry

Edit existing entries in the normal way, using the associated direct access keys (the procedure is described in Section 6).

9.1.1.2 Copy 24-hour profile

To copy a 24-hour profile to other days, navigate to the day which is to be used as a template.

Then go to the line Day copy to and select the days to which you want to copy the profile; acknowledge with OK for each day.

9.1.1.3 New entry

To add an entry select NEW ENTRY and edit the new entry.

9.1.1.4 Delete entry

To delete an entry, first select the entry to be deleted, and then select DELETE ENTRY.
9.2 Exception schedule

The exception schedule contains two kinds of exception:

- Exceptions which are stored locally in the time schedule and apply only to that specific time schedule; these are identifiable by the date information.
- Exceptions which are stored in a calendar object and used by various time schedules. These are recognizable by their names, e.g. holidays without date information.

Identification of exceptions in lists:

Symbol for an exception with a 24-hour profile and a date period

There are two ways of invoking exceptions in a list:

- Via an individual day in the Exceptions overview (see Section 9.2.1)
- Via the EXCEPTIONS button (see Section 9.2.2).

9.2.1 Listing the exceptions for a given day

In the 7-day schedule, navigate to the exceptions overview via EXCEPTIONS OVERVIEW.

Figure 9-1 Exceptions overview
Select the month and the year from the top line. All the days of the selected month will then be displayed. Days on which exceptions are programmed appear on a black background.

Select the required day and confirm with OK. A list of all the exceptions for the selected day is displayed. You can edit this display directly.

Figure 9-2 Exceptions for a specific day

### 9.2.2 Listing all the exceptions

Use the **EXCEPTIONS** button in the **Exceptions overview** (Figure 9-1) to display a list of all the exceptions defined in the selected time schedule. You can access these with the associated direct access keys.

Figure 9-3 Schedule exception list

**Wildcards**

You can use wildcards (*) to enter the date period. Note the wildcards used in the illustration above.
9.2.3  Create new local exception

**NEW LOCAL EXCEPTION** allows you to create a standard exception with the current date and add it to the Schedule exception list (Figure 9-4). The next section describes how to adapt this exception to your own particular needs.

9.2.4  Editing a local exception

Select a date entry from the Schedule exception list (Figures 9-5 and 9-6). A dialog box will appear (Figure 9-7), from which you can select the editing option you require.

Select **CHANGE DATE** to display the following dialog box:

![Figure 9-8 Schedule editing options](image)

Figure 9-8 Schedule editing options

![Figure 9-9 Changing the date of an exception](image)

Figure 9-9 Changing the date of an exception

Enter the required information and return to the editing functions via **SAVE & EXIT** (Figure 9-10).
Select **EDIT PROFILE** for access to the 24-hour profile of an exception. In this dialog box, you can select whether you want to modify the program or to delete all entries.

![Profile of an exception](image)

**Figure 9-11 Changing the profile of an exception**

**CHANGE PROGRAM**

Select **CHANGE PROGRAM** to invoke the editing mode.

Caution

The priority should only be modified by fully qualified personnel.

**DELETE ALL ENTRIES**

Select **DELETE ALL ENTRIES**. Acknowledge the data protection prompt. All entries will be deleted from the system.

This button is used to delete the selected exception.

**DELETE ENTRY**

Use this button to revert to the **Schedule exception list**, Figure 9-12).
9.2.5 Edit Calendar object

Select a calendar object from the Schedule exception list.

<table>
<thead>
<tr>
<th>Siemens/./Schedule exception list</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>10.10.2003</em>**</td>
</tr>
</tbody>
</table>

Choose one of the buttons below.

- CHANGE DATE
- EDIT PROFILE
- DELETE ENTRY

Figure 9-13 Editing a calendar object

You can edit the date and profile as described in Section 9.2.4.
10 Trend function and settings

The PXM20 operator unit provides the user with five channels for trend logging, enabling five data points to be logged.

The same dialog box is used for basic trend settings in all types of trend view (refer to Section 10.3). This dialog box is invoked when you set up a new data point (see Section 10.1). For channels which have already been set up, it can also be invoked by selecting Alarming & functions / Online Trend (see Section 10.2).

There are three separate approaches to the trend view:
- **Graphic view** (Section 10.3.2)
- **Graphic view online** (Section 10.3.3)
- **List view** (Section 10.3.4)
10.1 Setting up a new trend

Navigate to the data point for which you want to log a trend. Display the information dialog box.

![Information dialog box](image)

Figure 10-1 Information

Use the **LOG DATA POINT** button to set up the required trend. The dialog box with the trend settings opens (Figure 10-2). Section 10.3 describes how to set the trend parameters and define the type of view required.

The data point is automatically assigned to the first free channel.
## 10.2 Displaying an existing trend

Select the required channel via **Alarming & functions > Online trend.** If the adjacent symbol flashes, this indicates that logging is in progress.

<table>
<thead>
<tr>
<th>Siemens/Alarming &amp; functions</th>
<th>Online trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 1 - Outside air temperature</td>
<td></td>
</tr>
<tr>
<td>CH 2 - Supply air temperature</td>
<td></td>
</tr>
<tr>
<td>CH 3 - Free</td>
<td></td>
</tr>
<tr>
<td>CH 4 - Free</td>
<td></td>
</tr>
<tr>
<td>CH 5 - Free</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 10-3 Overview of active trend logging and spare channels.](image)

Select the required channel. The main dialog box for the selected trend channel will open (Figure 10-4). From here, you can view graphs and edit parameters.

The next section describes how to set the trend parameters and define the type of view required.

This button allows you to stop all trend logging and delete all configured trend charts.
10.3 Main trend dialog box

The main trend dialog box gives you access to the Trend configuration dialog box and to the various trend data views.

Figure 10-5 Setting trend parameters and defining the view

RELEASE CHANNEL stops the trend logging and deletes the trend configuration.

10.3.1 Trend configuration

From the main trend dialog box (Figure 10-6) select Trend configuration. You can now modify the parameters for the required trend logging.

Figure 10-7 Configuration, pages 1 and 2
The individual parameters have the following meanings:

- **Log enable**: On / Off
- **Start time**
- **Stop time**
- **Logging interval**: Enter the sampling rate (logging interval) in days, hours, minutes and seconds.
  
  A logging interval of 0 results in COV logging (Change of Value).
- **Stop when full**: Define here what should happen to the trend logging when the memory limits are reached.

  If you select No, the first values will be overwritten by new values. With Yes, trend logging will stop.

- **Buffer size**: Number of values that can be stored
- **Clear record**: Delete all logged values
- **Record count**: Number of sampled values in the current trend log

**SAVE TREND SETTINGS** lets you save your inputs, after which the PXM20 will start logging these values. The display reverts to the main dialog box.

| **Note** | The flashing symbol at the beginning of the line in the Online Trend dialog box (Figure 10-8) indicates that trend logging is actually in progress. If Log enable is set to On, but the symbol is not flashing despite this, you should check your settings (start time, stop time and referenced data point). |

You can display the trend data in three different views, as described in the next section.
10.3.2 Graphic view

The **Graphic view** displays a graph of all the values in the PXM20 for the logged data point.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>The graph displayed with this option reflects past events only. To view the values in real time, select <strong>Graphic view online</strong> (Section 10.3.3).</td>
</tr>
</tbody>
</table>

Before displaying the sampled values in a graph, you can adapt the display in **Graphic view** to your requirements, by modifying the following parameters in the **Trend configuration** dialog box (Figure 10-9).

![Figure 10-10 Parameters for the Graphic view](image)

The two parameters **Graphic start time** and **Graphic stop time** can be used to reduce the display window to a time-window of particular interest to you. As default values for the **Graphic start time** and **Graphic stop time**, enter the start and end of logging.

Use **Compare with channel** to compare the selected trend with another trend you have set up (see Figure 10-11).

Select **GRAPHIC** to confirm your settings and display the trend.
Setting guides

A guide line can be set and moved by use of the <+> and <-> keys. The data display is also refreshed.
10.3.3 Graphic view online

The Graphic view online displays the required value dynamically, i.e. in real time.

**Note**

To view all the values so far stored in the PXM20, select **Graphic view** (Section 10.3.2).

Here, you can define the duration ("Record time"), and the high and low range limits for the value.

<table>
<thead>
<tr>
<th><strong>Siemens/Online trend</strong></th>
<th><strong>CH 1 - Outside air temperature</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Record time</td>
<td>0:02 ▼</td>
</tr>
<tr>
<td>Low limit</td>
<td>10.0 ▼</td>
</tr>
<tr>
<td>High limit</td>
<td>90.0 ▼</td>
</tr>
</tbody>
</table>

Figure 10-14 Settings in the Graphic view.

Under **Record time** you can define the period of time for which you want to display this dynamic trend.

**Low limit** and **High limit** represent the upper and lower limits for the value range to be displayed.

The trend is displayed soon as you confirm your entries via **GRAPHIC**.

You can reset the graphic display by pressing OK.
Setting guides

A guide line can be set and moved by use of the <+> and <-> keys. The value corresponding to the guide line is also displayed.

10.3.4 List view

Instead of displaying the logged values in graph form, you can view them in list form.

<table>
<thead>
<tr>
<th>Siemens/..///Online trend</th>
<th>+CH 1 - Outside air temperature 1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logging started</td>
<td>03.10.03 10:32</td>
</tr>
<tr>
<td>Value: 8.3°C</td>
<td>03.10.03 10:32</td>
</tr>
<tr>
<td>Logging stopped</td>
<td>03.10.03 10:32</td>
</tr>
<tr>
<td>Logging started</td>
<td>03.10.03 10:34</td>
</tr>
<tr>
<td>Value: 8.3°C</td>
<td>03.10.03 10:34</td>
</tr>
<tr>
<td>Value: 8.3°C</td>
<td>03.10.03 10:34</td>
</tr>
</tbody>
</table>

Figure 10-16 Trend values in the list view
11 Service support

11.1 Wiring test

Note
The wiring test must be carried out only by service and commissioning engineers when commissioning the system.

Prerequisite
The automation station which is the subject of the test must not be integrated into a site and must not be loaded with application software.

Procedure
A No site exists yet, i.e. no program has yet been loaded by an automation control station.

- Select WIRING TEST

B A site already exists and you want to extend the network by one automation station:

- Log into the required site.
- Go to Alarming & functions and choose Wiring test.
Follow the instructions in the display, and press the service pin of the required automation station.

Position of service pin

Figure 11-1 Position of service pin in a PX compact automation station

Figure 11-2. Position of the service pin in a PX modular automation station

The wiring test is carried out.

List of all inputs and outputs

For your information, the PXM20 operator unit displays a list of all inputs and outputs of the tested automation and control stations, grouped according to signal type (analog, binary or multi-state, see Figure 11-3).
From here you can select the various inputs and outputs and display further information.

11.2 The Wink command

In certain cases where third-party integration is involved, the PXM20 may need to be specifically identified for commissioning purposes.

**Note** Although it exists in the PXM20, this command is not needed within the DESIGO system.

The identification process is carried out with the Wink command.

To send the Wink command, select **Send service pin message**. This immediately triggers the Wink signal.
11.3 Debug information

Debug information is helpful for troubleshooting, and is intended exclusively for development engineers. The latest entries are always displayed at the end of the list.

**Note**  
The time entry is only valid once a PXC automation station has been identified.

Select **Debug information** from the **Alarming & functions** dialog box.

![Figure 11-7 Debug information](image)

Figure 11-7 Debug information
This dialog box contains the following information:

**Error category**

Error category (letter at the beginning of the line):

- **C:** Information
- **E:** Error
- **F:** Fatal error
- **B:** Reboot

**Message text**

The following is an example of message text:

**PXM20 application started**

**Address in the program**

This address indicates where the error occurred. This information can be useful for troubleshooting.

Example:

**Addr: 0x8C6434**

**Time of occurrence**

The time at which the error occurred. The format is as follows:

Day, month, minute, second and millisecond since 01.01.1970 00:00.

Example:

**11801 DAYS 09:25:06.000**
Index

<table>
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<th>Feature</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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<td>&lt;?&gt; key</td>
<td>7, 12</td>
</tr>
<tr>
<td>24-hour schedule</td>
<td>48</td>
</tr>
<tr>
<td>Edit entry</td>
<td>48</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; party site</td>
<td>25</td>
</tr>
<tr>
<td>7-day schedule</td>
<td></td>
</tr>
<tr>
<td>Copy 24-hour profile</td>
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</tr>
<tr>
<td>DELETE ENTRY</td>
<td>49</td>
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<tr>
<td>NEW ENTRY</td>
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<td>40</td>
</tr>
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</tr>
<tr>
<td>Audible signal</td>
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</tr>
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<td>DETAILS</td>
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</tr>
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<td>Reset</td>
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<tr>
<td>Select</td>
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<tr>
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<td>24</td>
</tr>
<tr>
<td>Cancel audible signal</td>
<td>38</td>
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<tr>
<td>CHANGE DATE</td>
<td>52</td>
</tr>
<tr>
<td>CHANGE PROGRAM</td>
<td>48</td>
</tr>
<tr>
<td>Contrast</td>
<td>23</td>
</tr>
<tr>
<td>Copy 24-hour profile</td>
<td>49</td>
</tr>
<tr>
<td>Date and time format</td>
<td>23</td>
</tr>
<tr>
<td>Daylight savings</td>
<td>22</td>
</tr>
<tr>
<td>Debug information</td>
<td>67</td>
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<tr>
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<td>68</td>
</tr>
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