Desigo™ Touch Panel Clients
Commissioning
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1 Safety notes

⚠️ CAUTION

General safety regulations
Please comply with the following general regulations during engineering and execution:
- Measures/prohibitions to prevent the hazard of electrical and mains power ordinances for the given country.
- Other applicable, national regulations.
- Building installation regulations for the given country.
- Regulations of the utility company.
- Diagrams, cable lists, dispositions, specifications, and orders by the customer or authorized engineering office.
- Third-party regulations, e.g. by the general contractor or building owner.

⚠️ CAUTION

National safety regulations
Failure to comply with national safety regulations may result in personal injury and property damage.
- Observe national provisions and comply with the appropriate safety regulations.

⚠️ CAUTION

Electrical safety
The electrical safety for building automation and control systems by Siemens Building Technologies is primarily based on safely separating low voltage from mains voltage.

⚠️ CAUTION

IEC (SELV/PELV) (worldwide)
Application as per SELV or PELV pursuant to IEC 60364-4-41 "Low voltage electrical installations" depending on the grounding (⊥ AC 24 V) of the low voltage:
- Ungrounded = Safety Extra-Low Voltage (SELV)
- Grounded = Protection by PELV (Protected Extra Low Voltage)
**CAUTION**

NEC (North America)
Use of class 2 transformers limited to 100 VA or class 2 circuits at max. 100 VA by a non-limited transformer of max. 400 VA, combined with overcurrent protection (T 4 A fused) for each AC 24 V device. Multiple fuses for multiple insulated secondary circuits per transformer are possible (see Power requirements).
The same applies to DC 24 V power supplies.

**CAUTION**

Device safety
Device-related safety is guaranteed, among others, by low voltage power supply AC 24 V, DC 24 V and double insulation between the mains voltage AC 230 V, AC 24 V circuits and the housing or Power over Ethernet (PoE Class 4).
Comply with specific regulations for electrical wiring per the following sections.

**CAUTION**

Grounding ⊥ (system neutral AC/DC 24 V)
Observe the following points when grounding ⊥ AC 24 V (system neutral):
- Operating voltage of AC 24 V is permitted in principle for both grounded as well as non-grounded system neutrals. Local regulations and customs apply accordingly. Grounding may be required or not allowed for functional reasons.
- Recommendation: AC 24 V systems are generally grounded unless otherwise not recommended by the manufacturer.
- In order to avoid ground loops, connect systems with PELV to the ground at one location only (especially for transformers), unless otherwise indicated.
- The same applies to DC 24 V power supplies.

**CAUTION**

Functional ground ↓
The connections of the functional earth must be connected on the installation side with the building grounding system (PE).

**CAUTION**

Operating voltage AC/DC 24 V
It must meet requirements for SELV or PELV. Permissible deviation to nominal voltage:
- At the transformer/power unit: AC / DC 24 V -10 … + 20%
- At the end device (web server): AC 24 V ±20%, DC 24 V ± 20%
- At the end device (touch panel): AC 24 V ±20%, DC 24 V ± 20%
### Transformer specification AC 24 V

**CAUTION**

**Transformer specification AC 24 V**

IEC: Use safety insulating transformers as per IEC 61558 with double insulation designed for 100% duty to supply SELV or PELV circuits.

USA: Class 2 circuits per UL 5085-3

Power taken from the transformer should be at least 50% of nominal load for efficiency reasons (effectiveness).

Transformer nominal power should be at least 25 VA. For smaller transformers, the ratio of open circuit voltage to full load is unfavorable (> + 20%).

---

### DC 24 V power supply specification

**CAUTION**

**DC 24 V power supply specification**

Designed for 100% duty to supply SELV or PELV electrical circuits.

USA: Class 2 circuits per UL 5085-3.

Power taken from the transformer is at least 50% of nominal load for efficiency reasons (effectiveness).

---

### Operational voltage fuse AC 24 V

**CAUTION**

**Operational voltage fuse AC 24 V**

Transformers on the secondary side correspond to the actual load of all connected devices as per transformer sizing:

AC 24 V line (system potential) must always be fused.

Where required, also fuse line ⊥ (system neutral).

---

### Operational voltage fuse DC 24 V

**CAUTION**

**Operational voltage fuse DC 24 V**

DC 24 V power are short-circuit proof or have internal fuses.

Comply with all local regulations.

---

### Mains fuse

**CAUTION**

**Mains fuse**

Transformers / DC 24 V power on the primary side: Panel fusing (control fuse)

---

### Power over Ethernet (PoE) PoE

**CAUTION**

**Power over Ethernet (PoE) PoE**

Desigo touch panels require power for PoE+ Class 4 (max. 600 mA / 25.5 W). It must comply with IEEE 802.3at-2009.

Comply with manufacturer guidelines on power to the PoE switches.
<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caution with regard to foreign voltages</td>
</tr>
<tr>
<td>Any insertion or drawing of dangerous voltages to the system's low-voltage circuit, e.g. caused by improper wiring, directly places people at risk and may result in the partial or complete destruction of the building automation and control system.</td>
</tr>
</tbody>
</table>
2 About this document

2.1 Scope

This manual provides the procedures for installing and commissioning Desigo Touch Panel Clients. It contains the following sections:

- **Overview** provides a product overview, including the topology with HTML5.0 Web server.
- **Commissioning** describes the initial login to an unconfigured device and using the Setup wizard for device and network setup.
- **User interface** describes the touch panel browser bar and the Setup & Service Assistant (SSA), which is used to configure, commission and maintain devices on the building network.
- **Settings** outlines how to configure local settings, such as language, time, or the screen brightness for a touch panel.
- **User administration** describes default user roles and managing users.
- **ABT Site** outlines tasks that require ABT Site.
- **Installation** provides information on panel mounting, device power requirements, cabling requirements and wiring information.

2.2 Target reader

This manual is written for Engineers who are configuring a Desigo Touch Panel Client (PXMx0-1) for use with an HTML5.0 Web Server.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desigo Touch Panel Clients are compatible with HTML5.0 Web applications. Individual tests must be conducted with Desigo Touch Panel Clients and the HTML5.0 Web Server to verify inter-operational capabilities. The data displayed on your system may look different than what is shown in this manual.</td>
</tr>
</tbody>
</table>

2.3 Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT-SSA</td>
<td>Setup &amp; Service Application. Mainly intended for commissioning, service and other more advanced tasks.</td>
</tr>
<tr>
<td>Desigo Touch Panel Client</td>
<td>Touch device for communication using an HTML5.0 web server. For example, Siemens devices PXM30-1, PXM40-1, PXM50-1.</td>
</tr>
<tr>
<td>HTML5.0 Web Server</td>
<td>Enables access from a standard Web browser to a specific system and provides its content in Web pages.</td>
</tr>
</tbody>
</table>

2.4 References

The *Desigo Touch Panel Clients Data Sheet (PXM30-1, PXM40-1, PXM50-1)* (A6V11664137) is available on the Internet: [Download center]
3 Overview

Topology with HTML5.0 Web server

Product overview
Desigo Touch Panel Clients are optimized for local on-site operation.
For more information, see the *Desigo Touch Panel Clients (PXM30-1, PXM40-1, PXM50-1)* data sheet (A6V11664137).

<table>
<thead>
<tr>
<th></th>
<th>PXM30-1</th>
<th>PXM40-1</th>
<th>PXM50-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display size</td>
<td>7.0&quot;</td>
<td>10.1&quot;</td>
<td>15.6&quot;</td>
</tr>
<tr>
<td>Resolution</td>
<td>1024 × 600</td>
<td>1280 × 800</td>
<td>1366 × 768</td>
</tr>
<tr>
<td>Suitable for installation in panel doors</td>
<td>✣</td>
<td>✣</td>
<td>✣</td>
</tr>
<tr>
<td>Suitable for wall mounting</td>
<td>✗</td>
<td>✣</td>
<td>✣</td>
</tr>
<tr>
<td>Mounting frame for wall mounting (ordered separately)</td>
<td>✗</td>
<td>PXA.V40</td>
<td>PXA.V50</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>AC 24 V or DC 24 V</td>
<td>AC 24 V, DC 24 V, or Power over Ethernet (PoE)</td>
<td>AC 24 V, DC 24 V, or Power over Ethernet (PoE)</td>
</tr>
</tbody>
</table>

Table 1: Touch-Panels Clients 7.0", 10.1" and 15.6".

Legend:
- ✣ Available
- ✗ Not available
4 Commissioning

① Startup the device

The Touch Panel Client is installed according to the information in the Installation [➙ 32] section.

1. Connect power and network cables.

   ![Figure 1: AC / DC 24V LAN RJ-45 USB Reset](image)

2. Tap to select a screen orientation.

3. Tap to display the Desigo Web login page.

② Initial login

1. Enter Administrator (case sensitive) for the User name.

2. Enter OneBT for the password.

3. Change the password as required.
## Setup wizard

- Use the tables in this section to complete the Setup wizard.

### Setup wizard – Device

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device name</td>
<td><em>(Required)</em> Name of the Touch Panel Client. This name displays in the Setup &amp; Service Application (SSA) status bar.</td>
</tr>
<tr>
<td>Device instance number</td>
<td><em>(Required)</em> A unique number in the range from 0 through 4194302. The number must not be used by any other device on the network.</td>
</tr>
<tr>
<td>Description</td>
<td>Text field to describe the device. This description displays in the work area.</td>
</tr>
<tr>
<td>Location</td>
<td>Text field to describe the device location.</td>
</tr>
<tr>
<td>Time zone</td>
<td>Drop-down list of global time zones.</td>
</tr>
<tr>
<td>Model name</td>
<td><em>(Information only)</em> Model number of the Touch Panel Client.</td>
</tr>
<tr>
<td>Operation URL</td>
<td><em>(Information only)</em> IP address of the Touch Panel Client.</td>
</tr>
<tr>
<td>Firmware revision</td>
<td><em>(Information only)</em> Current firmware revision loaded in the device.</td>
</tr>
<tr>
<td>Serial number</td>
<td><em>(Information only)</em> Serial number of the Touch Panel Client.</td>
</tr>
<tr>
<td>Local date</td>
<td><em>(Information only)</em> Current date.</td>
</tr>
<tr>
<td>Local time</td>
<td><em>(Information only)</em> Current time.</td>
</tr>
</tbody>
</table>

*Table 2: Device fields.*
### Setup wizard – Network settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHCP check box</td>
<td>Select to use dynamic IP addressing. Otherwise, complete the IP address.</td>
</tr>
<tr>
<td></td>
<td>Subnet mask and Router fields to use a fixed IP address.</td>
</tr>
<tr>
<td>MAC Address</td>
<td>(Information only) MAC address of the device.</td>
</tr>
<tr>
<td>SNMP check box</td>
<td>If selected, SNMP monitoring is active.</td>
</tr>
<tr>
<td>Read community string</td>
<td>Community string that allows reading information from a device.</td>
</tr>
<tr>
<td>Port</td>
<td>(Information only) Port defined for IP communication.</td>
</tr>
<tr>
<td>Enable</td>
<td>(Information only) Online status of the IP communication port.</td>
</tr>
<tr>
<td>Network number</td>
<td>Number that identifies the IP network. Range is 0 to 65534. Default: 0</td>
</tr>
<tr>
<td>UDP port</td>
<td>UDP port number that the service uses to communicate. Range is 0 to 65535. Default: 47808 (BAC0)</td>
</tr>
<tr>
<td>Status</td>
<td>(Information only)</td>
</tr>
</tbody>
</table>

Table 3: Network settings fields.
1. Leave all **Application** fields at the default. These fields are specific to Siemens applications.

2. Click **Save** to complete the commissioning.
   - The device restarts and the login screen displays. The device is now available on the network.

**Connect to the HTML Web Server**

- The Setup wizard is complete. The device has restarted and is available on the network.

1. Log in to the application using the **Administrator** account.

2. Enter the password selected during the commissioning process.
   - The Setup & Service Assistant displays.

3. Continue with the procedure Home URL [➙ 26] to define the home page for your building automation Web interface.

**Next steps**

- To setup Favorites that can be accessed through the touch panel, see Favorite URLs [➙ 27].
- To configure settings, such as language, time, or the screen brightness, see Settings [➙ 23].
5 User interface

5.1 Touch panel browser bar

- Swipe down to display the touch panel browser bar.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔄</td>
<td>Reloads the current page.</td>
</tr>
<tr>
<td>🏡</td>
<td>Displays the home page for your building automation Web interface. To setup this URL, see Home URL [➙ 26].</td>
</tr>
<tr>
<td>⭐️</td>
<td>Displays the available Favorites pages. To setup Favorites, see Favorite URLs [➙ 27].</td>
</tr>
<tr>
<td>🔧</td>
<td>Displays the Settings [➙ 23] page, which allows you to configure local settings, such as language, time, or the screen brightness.</td>
</tr>
</tbody>
</table>

5.2 Setup & Service Assistant

The Setup & Service Assistant (SSA) is used to configure, commission and maintain devices on the building network. The user interface automatically adjusts to fit your screen width and orientation.

![Figure 2: Setup & Service Assistant user interface.](image)
5.2.1 Navigation pane

The navigation pane provides various views of devices and objects on the network.

Navigation is done on multiple levels:

- **SSA navigation pane**: On smaller screens, click to display or hide the navigation pane.
- **Core function selector**: Filters the data displayed in the work area.
- **Root icon**: Clears the breadcrumb navigation list and displays the top-level list of objects for the option selected in the navigation pane.
- **Breadcrumb navigation**: Informs the user about the current location in the navigation.
- **Work area**: Displays data for the current level of the building structure.
- **Status bar**: Displays the following information (from left to right):
  - Name of the device. For example, PX50-1. (Not displayed on small screens.)
  - Automation station state indicator. Click the icon to navigate to the list of active alarms and faults.
  - Current date and time. (Not displayed on small screens.)
  - **User name** of the currently logged in user profile.
- **User and session management menu**: Allows users to logout and manage profiles.

The navigation pane selects the type of information displayed in the work area. 
The core function selector filters the types of objects displayed in the work area. 
The breadcrumb navigation bar can be used to return to a different level of the object tree.
Navigation pane views

![Navigation pane](image)

**Figure 3: Navigation pane.**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Device</td>
<td>Displays a detailed listing and state of events related to the local device. For example, it shows whether the device is operational and lists the available RAM and Flash memory.</td>
</tr>
<tr>
<td>②</td>
<td>Installation</td>
<td>Opens the Installation application. Allows you to view all device properties of the Desigo Touch Panel Client.</td>
</tr>
<tr>
<td>③</td>
<td>Settings</td>
<td>Displays the Favorite commissioning objects. This menu can be used for manual configuration of the device.</td>
</tr>
<tr>
<td>④</td>
<td>Application</td>
<td>This function is specific to Siemens applications.</td>
</tr>
</tbody>
</table>
5.2.2 Installation
The Details view on the Overview Web page allows you to view all device properties of the Desigo Touch Panel Client.

1. Click \(\text{Setup \\& Service} \) to display or hide the Setup & Service menu.
2. **Device settings**
   - Click the title bar to display the list of settings.
3. **Search**

Device view: Device and network configuration

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host name</td>
<td>Host name label. For example, AS08.</td>
</tr>
<tr>
<td>Object name</td>
<td>Name of room automation station. For example, PXM50-1.</td>
</tr>
<tr>
<td>Description</td>
<td>The device description entered in ABT Site. This property can be modified through (\text{Device &gt; Properties} ) in SSA.</td>
</tr>
<tr>
<td>Model name</td>
<td>Device model. Assigned by the vendor to represent the model of the device. For example, PXM50-1.</td>
</tr>
<tr>
<td>System status</td>
<td>Current status of the system. Default is Operational.</td>
</tr>
<tr>
<td>Operation URL</td>
<td>Web address of the device.</td>
</tr>
<tr>
<td>Serial number</td>
<td>Serial number of the physical device.</td>
</tr>
<tr>
<td>Firmware revision</td>
<td>Current firmware loaded into the device. For example, ( FW=01.21.50.141;WPC=1.7.3;SVS-300.4:SBC=13.22; )</td>
</tr>
<tr>
<td>Application SW version</td>
<td>Identifies the version of the application software installed in the machine. The content of this string is a local matter, but it could be a date-and-time stamp, a programmer's name, a host file version number, etc. For example, ( \text{Sep_29_2014_19_44_54} ).</td>
</tr>
</tbody>
</table>
## User interface

### Setup & Service Assistant

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local date</td>
<td>Current date in <strong>DD.MM.YYYY</strong> format. This property can be modified through <strong>Device &gt; Properties</strong> in SSA.</td>
</tr>
<tr>
<td>Local time</td>
<td>Current local time in <strong>HH:MM:SS</strong> format. This property can be modified through <strong>Device &gt; Properties</strong> in SSA.</td>
</tr>
<tr>
<td>Max APDU length accepted</td>
<td>Maximum length of the APDU.</td>
</tr>
<tr>
<td>Number of APDU retries</td>
<td>The number of retries. Range is 1 through 5. Default: 3. This property can be modified through <strong>Device &gt; Properties</strong> in SSA.</td>
</tr>
<tr>
<td>APDU segment timeout</td>
<td>Amount of time in milliseconds between retransmission of an APDU segment. The suggested value is <strong>5000</strong>.</td>
</tr>
<tr>
<td>APDU timeout</td>
<td>The timeout value in milliseconds. Range is <strong>1000</strong> through <strong>10000</strong>. Default: <strong>3000</strong>. This property can be modified through <strong>Device &gt; Properties</strong> in SSA.</td>
</tr>
<tr>
<td>Max segments accepted</td>
<td>The maximum number of octets that may be contained in a single, indivisible application layer protocol data unit. The value of this property is greater than or equal to <strong>50</strong>. For example, <strong>32</strong>.</td>
</tr>
<tr>
<td>Segmentation supported</td>
<td>Indicates whether the device supports segmentation of messages and, if so, whether it supports segmented transmission, reception, or both. For example, <strong>Segmented both</strong>.</td>
</tr>
</tbody>
</table>
6 Settings

NOTICE

Changes to the Desigo Control Point device configuration are saved in non-volatile memory every 30 minutes and whenever you log out of the device.
- Save and log out to immediately save changes to the device configuration.
- Changes to the device configuration are lost if a power cycle occurs within 30 minutes of the change and before you have logged out.

This section outlines how to configure local settings, such as language and time, or the touch panel settings, such as screen brightness and orientation.

1. In SSA, select ☊ > Favorite commissioning.

2. Select one of the following items to modify:
   - Device
   - Network port for IP
   - Touch panel settings

3. See the tables in this section for more information.

Device

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Location description for the device.</td>
</tr>
<tr>
<td>Time zone</td>
<td>Drop-down list of global time zones.</td>
</tr>
<tr>
<td>Active system language</td>
<td>User interface language for the application.</td>
</tr>
<tr>
<td></td>
<td>Default: The language selected on the login page.</td>
</tr>
<tr>
<td>Equipment identifier</td>
<td>Modify the equipment identifier for the device.</td>
</tr>
<tr>
<td>Description</td>
<td>Text field to describe the device. This description displays in the work area.</td>
</tr>
</tbody>
</table>

Table 4: Device settings.
Network port for IP

### Table 5: Network port for IP settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network number</td>
<td>Range is 0 to 65534.</td>
</tr>
<tr>
<td>UDP port</td>
<td>Range is 0 to 65535.</td>
</tr>
<tr>
<td>IP address</td>
<td></td>
</tr>
<tr>
<td>IP subnet mask</td>
<td></td>
</tr>
<tr>
<td>IP default gateway</td>
<td></td>
</tr>
<tr>
<td>Enable (IP) DHCP</td>
<td>Yes – Use dynamic IP addressing. No – Use a fixed IP address.</td>
</tr>
<tr>
<td>Device instance number</td>
<td>Range is 0 to 4194303.</td>
</tr>
<tr>
<td>Device name</td>
<td>Modify the device name.</td>
</tr>
</tbody>
</table>
| Command                   | **Activate** – Apply the new settings. The device may reboot depending on the settings changed.  
**Discard changes** – Discard your changes and return to the **Favorites** list.  
**Restart port** – Restart the IP port. |
Touch panel settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen brightness</td>
<td>Use the slider or enter a value to adjust the screen brightness.</td>
</tr>
<tr>
<td>Screen brightness mode</td>
<td>Automatic, Manual</td>
</tr>
<tr>
<td>Screensaver timeout</td>
<td>Select the number of minutes the touch panel must be inactive before the screensaver displays. Options are 5, 10, 15, 30, 45 and 60 minutes.</td>
</tr>
<tr>
<td>Screen orientation</td>
<td>Landscape, Portrait, Landscape flipped, Portrait flipped</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Select a keyboard language from the dropdown list.</td>
</tr>
</tbody>
</table>

Table 6: Touch panel settings.

6.1 Network

Changing DHCP settings

1. Log in to the Administrator account and select Device > Network port for IP.

2. Select Enable (IP) DHCP.

3. To use a fixed IP address, change the setting to No and click OK.

4. Modify the following settings:
   - IP address
   - Device instance number
   - Device name

5. Click Activate to apply the new settings and then click OK to reboot the device.
6.2 Home URL

This procedure defines the home page for your building automation Web interface.

⚠️ CAUTION

Minimize links to external URLs. Linking to external URLs, such as Favorites, Web cams and external Web services poses a security risk.

- URLs shall only direct to secure services, such as Web servers hosted by devices in the building automation control network. Using touch panels for applications other than building automation, for example, to display a news Web site, exposes your system to the risk of downloading and executing malicious scripts.
- The system integrator is responsible for making a risk-benefit decision about providing external URLs and for informing the customer of potential risks.

Complete this procedure in SSA.

1. Select ➔ Favorite commissioning ➔ Touch panel settings.
2. Click ➔ to display all properties.
3. Select Home URL, enter the URL for the home page of your building automation Web interface and click OK.

Note

You must include https:// or http:// for the URL.

4. Do the following to verify your settings:
   - Select ➔ Log out to log out of SSA.
   - Swipe down to display the URL bar.
   - Tap 🌐

   The home page of your building automation Web interface displays.

Next steps

- To setup Favorites that can be accessed through the touch panel, see Favorite URLs ➔ 27.
- To configure settings, such as language, time, or the screen brightness, see Settings ➔ 23.
6.3 Favorite URLs

A maximum of ten Favorite URLs can be defined for users to access through the touch panel. Users swipe down to display the URL bar on the touch panel and click ⭐ to display the pages you have defined.

Defining Favorites requires two steps through Favorite commissioning > Touch panel settings:

1. Entering URL addresses through URL favorites.
2. Entering a corresponding name for each URL address through Annotations for URL favorites.

Figure 4: Defining Favorites to access through a touch panel.
6.4 Clear device

The State view on the Overview Web page allows you to clear the device or the application and view basic device and network configuration information.

1. Click  to display or hide the Setup & service menu.

2. Clear device
   Stops and clears the device and clears the application configuration.
   - If a Web browser is always used to configure the device and application, the following apply after a clear device is performed:
     - The factory-loaded application is available on the device
     - The factory-loaded application can be activated through the Web browser.
   - If ABT Site is used at any time to configure the device and application, the following apply after a clear device is performed:
     - The factory-loaded application is not available on the device.
     - ABT Site must be used to configure the device and application.

3. Clear application
   Stops the device, clears the application configuration, and keeps the existing device configuration. The device must be configured. The loaded application remains on the device and can be activated.

State view: Device and network configuration

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object name</td>
<td>Name of the device. For example, DCP230.</td>
</tr>
<tr>
<td>Model name</td>
<td>Device model. For example, PXG3.W200-1.</td>
</tr>
<tr>
<td>Local date</td>
<td>Current date in DD.MM.YYYY format.</td>
</tr>
<tr>
<td>Local time</td>
<td>Current local time in HH:MM:SS format.</td>
</tr>
<tr>
<td>System status</td>
<td>Current status of the system. Default is Operational.</td>
</tr>
<tr>
<td>Firmware revision</td>
<td>Current firmware loaded into the device. For example, FW=01.21.47.150.</td>
</tr>
<tr>
<td>Serial number</td>
<td>The serial number of the physical device.</td>
</tr>
</tbody>
</table>
7 User administration

User profile management through a Web browser provides basic user management functionality.

- By default, the Desigo Touch Panel Client contains an Administrator user profile. This profile cannot be deleted and the User name and User role fields cannot be modified.
- Manage users only displays in the user management menu for the default Administrator user profile and user roles that have been granted access to add, edit and delete user profiles.
- You can create additional user profiles. Each profile must have a unique User name.
- The user profile for the currently logged in user cannot be deleted.
- If access to the Web-based interface is locked by failed login attempts, you must delete and re-add the user profile in SSA.

7.1 Default user roles

The following set of predefined User roles is provided to control access to functions and tools:

- Administrators
- Advanced engineers
- Standard engineers
- Advanced operators
- Standard operators
- Technical operators
- Balancers

7.2 Managing user profiles

Note
The default Administrator user profile cannot be deleted and the User name and User role fields cannot be modified.

Managing password security

To help ensure a secure operating environment, use the following password recommendations when adding user profiles:

- Create unique usernames/passwords for each user.
- Do not create a common username/password to be shared by all employees.
- Require that passwords be changed at regular intervals, such as every 45 days.
- Do not allow users to write their password on a piece of paper and attach it to their monitor or leave it where it can be easily found.
- Remove user accounts for individuals who no longer require access or no longer work at the facility.
- Require that users create a robust/complex password.
  - Use a combination of uppercase and lowercase letters, numerals, and special characters.
  - Use a minimum of 8 characters for a user account and a minimum of 12 characters for privileged accounts.
- User profile passwords cannot be reset. If access is locked by failed login attempts, you must delete and re-add the user profile.

Adding a new user profile

1. Select > Manage users in the status bar.
2. Click Add and then complete the fields outlined in the following table.
3. Click Add to save the new user profile and return to the Manage users page.
Editing a user profile
1. Select $\rightarrow$ Manage users in the status bar.
2. Select $\text{Edit}$ for a user profile to modify the fields outlined in the following table.
3. Select Save and Close to save your changes and return to the operating and monitoring functions.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User name</td>
<td>Type a user name. Each user profile must have a unique User name.</td>
</tr>
<tr>
<td>New password and Confirm password</td>
<td>If necessary, click Change password to display the password fields. Type and confirm a password that complies with the password policy for your site.</td>
</tr>
<tr>
<td>User role</td>
<td>Select a role from the drop-down list. The User role controls access to functions and tools.</td>
</tr>
<tr>
<td>Language</td>
<td>Select the user interface language.</td>
</tr>
<tr>
<td>Date format</td>
<td>Select a date format. For example, DD.MM.YYYY, YYYY/MM/DD or MM-DD-YYYY.</td>
</tr>
<tr>
<td>Time format</td>
<td>Select the 24h or 12h time format.</td>
</tr>
</tbody>
</table>

Table 7: Manage users fields.

Deleting a user profile
Note
The user profile for the currently logged in user cannot be deleted.
1. Select $\rightarrow$ Manage users in the status bar.
2. Click $\text{X}$ and Delete user to delete the selected user profile.
3. Click Close to return to the operating and monitoring functions.

Changing user passwords
Do the following to change another user’s password:
1. Select $\rightarrow$ Manage users in the status bar.
2. Click $\text{Edit}$ for the user profile.
3. Click Change password.
4. Enter the current password for the user profile.
5. Type and confirm a password that complies with the password policy for your site.
6. Click Change password to save the new password.
7. Click Save to save your changes and return to the Manage users page.
8 ABT Site

ABT Site is the engineering tool for Desigo Touch Panel Clients. It is used for more advanced tasks, such as a firmware update and to backup and restore the device configuration.

For more information see the online help in ABT Site.
9 Installation

9.1 Touch panels PXMx0-1

Panel door mounting
A cut out with the following dimensions is required to mount the touch panel on a panel door.
Panel door thickness: 1 mm to 4 mm

<table>
<thead>
<tr>
<th>Cut out for PXM30-1</th>
<th>Cut out for PXM40-1</th>
<th>Cut out for PXM50-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>181 (7.13&quot;)</td>
<td>266 (10.47&quot;)</td>
<td>395 (15.55&quot;)</td>
</tr>
<tr>
<td>116 (4.57&quot;)</td>
<td>172 (6.77&quot;)</td>
<td>240 (9.45&quot;)</td>
</tr>
</tbody>
</table>

Example PXM40-1:
Recessed mounting
Installation frames PXA.V40 and PXA.V50 are used for a recessed touch panel installation in a wall.

<table>
<thead>
<tr>
<th>Cut out for PXM40-1</th>
<th>Cut out for PXM50-1</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Cut out for PXM40-1" /></td>
<td><img src="image2" alt="Cut out for PXM50-1" /></td>
</tr>
</tbody>
</table>

Example PXM40-1:

1. You can loosen the mounting screws a bit if the plaster is uneven. This increases the panel's distance to the wall.

A Wall plate
B Mounting frame
C Touch panel with mounting screw
X Panel distance to the wall
9.2 Power requirements

9.2.1 Power consumption per device

<table>
<thead>
<tr>
<th>Type</th>
<th>AC 24 V ± 20 %</th>
<th>DC 24 V ± 15%</th>
<th>PoE(^1) (DC 48 V Class 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PXM30-1</td>
<td>Max. 29 VA</td>
<td>Max. 17 W</td>
<td>n.a.</td>
</tr>
<tr>
<td>PXM40-1</td>
<td>Max. 32 VA</td>
<td>Max. 21 W</td>
<td>Max. 22 W</td>
</tr>
<tr>
<td>PXM50-1</td>
<td>Max. 42 VA</td>
<td>Max. 26 W</td>
<td>Max. 25 W</td>
</tr>
</tbody>
</table>

\(^1\) Power over Ethernet. See the topic Power over Ethernet.

9.2.2 Transformer sizing AC 24 V

The transformer power is the sum of the power consumption of the connected devices.

Operating voltage

The operating voltage is AC 24 V. It must meet the requirements for SELV or PELV per IEC 60364-4-41. NEC: Class 2 transformers or class 2 circuits.

Permissible deviation to nominal voltage AC 24 V on the Transformer: +20%/-10%.

This guarantees a tolerance of +/- 20% on the devices after considering line and contact resistance.

Transformer specification AC 24 V

IEC: Use safety insulating transformers as per EN 61558 with double insulation designed for 100% duty to supply SELV or PELV circuits.

NEC: Class 2 transformers.

Transformer nominal power should be at least 25 VA. For smaller transformers, the ratio of open circuit voltage to full load is unfavorable (> + 20%)

The nominal transformer power should not exceed 200% of maximum load for efficiency reasons (effectiveness).

Wire lengths: Power supply AC 24 V

The basis for calculation is a permissible voltage drop off of 2.4 V (10%) on the power line from the transformer to the farthest power point.

The following table outlines the wire lengths and diameters based on load.

<table>
<thead>
<tr>
<th>Cross-section/power</th>
<th>Cable length for AC 24 V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 VA</td>
</tr>
<tr>
<td>2.50 mm(^2) / AWG14</td>
<td>350 m</td>
</tr>
<tr>
<td>1.50 mm(^2) / AWG16</td>
<td>210 m</td>
</tr>
<tr>
<td>1.00 mm(^2) / AWG18</td>
<td>135 m</td>
</tr>
</tbody>
</table>

The supply wire (AC 24 V) and return wire (⊥) can each have the indicated lengths.

Each power point is either connected separately to the terminal bar on the transformer (star wiring) or looped.

Power is added together for multiple back-to-back looped devices which reduces the cable length accordingly.

Cables may be wired in parallel to increase the cross section.

In practice, the small level of permissible voltage drop off means that the transformer must always be installed in close proximity to the devices and that any cascading powering of devices is only possible over short distances or at small outputs.
9.2.3 Power requirements for DC 24 V

Operating voltage
The operating voltage is DC 24 V. It must meet the requirements for SELV or PELV per IEC 60364-4-41. NEC: Class 2 circuits.
Permissible deviation to nominal voltage DC 24 V on the power supply: +15% / -10%
This guarantees a tolerance of +15/-15% on the devices after considering line and contact resistance (Web Server: -20%).

Wire lengths: Power supply DC 24 V
The basis for calculation is the permissible voltage drop off of 2.4 V (10%, Web Server) or 1.2 V (5%, touch panels on the power line between the power supply and the farthest power point).
The following tables outline the wire lengths and diameters based on load.

<table>
<thead>
<tr>
<th>Cross-section/power</th>
<th>Cable length DC 24 V – Touch panels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 VA</td>
</tr>
<tr>
<td>2.50 mm² / AWG14</td>
<td>75 m</td>
</tr>
<tr>
<td>1.50 mm² / AWG16</td>
<td>42 m</td>
</tr>
<tr>
<td>1.00 mm² / AWG18</td>
<td>27 m</td>
</tr>
</tbody>
</table>

The supply wire (AC 24 V) and return wire (⊥) can each have the indicated lengths.
Each power point is either connected separately to the terminal bar on the power supply (star wiring) or looped.
Power is added together for multiple back-to-back looped devices which reduces the cable length accordingly.
Cables may be wired in parallel to increase the cross section.
In practice, the small level of permissible voltage drop off means that the power supply must always be installed in close proximity to the devices and that any cascading powering of devices is only possible over short distances or at small outputs.

9.3 Cable
Desigo Touch Panel Clients are connected over switches and Ethernet cable with RJ45 plugs.
The following conditions must be met:
Bus cable and length:
- Standard Ethernet cable: Min. category 5
- Shielded or unshielded
- STP (Shielded Twisted Pair) or UTP (Unshielded Twisted Pair)
- Length between switch and room automation station: max. 100 m
- Length between room automation stations: Max. 100 m
- Number of devices on a line topology: Max. 20
- For PoE Class 4, the maximum cable resistance is 12 Ω.
Switch: Standard product from IT at 100 Mbps
9.4 Power over Ethernet (PoE) PoE

Principle: "Usable signal and power supply on the same cable".

Benefits
Power over Ethernet (PoE) is a simpler solution to supply power to low consumption room operator units. It saves on power cables and associated installation costs. PoE can be used to connect Ethernet devices in difficult to access locations or areas where multiple cables are disruptive.

* Power voltage and current is based on the PoE switch used as well as the number of connected touch panels.

Function
On PoE, Powered Devices (PDs, here: End units) are supplied by Power Sourcing Equipment (PSEs). The voltage is supplied over the RJ45 plug and twisted pair cable (TP), and by device over:

- Wires that also transmit data
- Unused wires on the RJ45 connection

PoE topologies
PoE requires a star topology. Typical PoE switches have 4 to 16 outputs.
As a result, multiple switches are used in a line topology on larger systems (e.g. suites in a hotel).

Additional topologies:
- Certain switches (general industrial types) possess an uplink, i.e. multiple switches can be switched in series.
- An individual consumer can be powered using a PoE injector. This is an intermediate power source (mid span), in contrast to direct power by the PoE switch (end span).

PoE switches / injectors
- Use only switched design for industrial use
- Transmission speed: 100 Mbps
- Compliant with IEEE 802.3at
- Power class 4 (12,95-25,50 W)
- Type 2
- The switches must support supply alternative A
Selection criteria
- Required number of outputs
- Required power
- Operating switch voltage
- (PoE itself operated at DC 48 V; various switches can, however, be powered for example at DC 18…24 V or AC 230 V)
- Installation location (due to protection class)

9.5 Wiring

Cabling and duct cross section
Wire the devices in the standard manner in the cable ducts.
Recommendation: Design the duct cross-section with at least 30% in reserve.

Wiring and connection terminals
Use wiring types and diameters as per the specifications below:

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabling</td>
<td>Use standard stranded cable and wiring. The ends can be connected directly or strengthened with conductor sleeves or pin connectors. Important: If low-voltage wiring runs alongside mains voltage, it must have the same level of insulation as wiring for mains voltage.</td>
</tr>
<tr>
<td>Device connection terminals</td>
<td>The device connection terminals are designed for wiring for: Min. 0.5 mm Ø Max. 2 x 1.5 mm² or 1 x 2.5 mm² Connection terminals are so-called lifting clamps. The contact plate between the wire and the screw end is easy on the wiring. Important: Only the original plug-in connection terminals may be used as the connection facility</td>
</tr>
</tbody>
</table>

Tightening torque
Set the torque to 0.5-0.6 Nm or 50-60 SCM (0.37…0.44 lb ft) when using electrical screwdriver on the connection terminals.

9.5.1 Power supply DC 24 V
The same rules apply as for AC 24 V.
10 Disposal

The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.