Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

[DANGER]
indicates that death or severe personal injury will result if proper precautions are not taken.

[WARNING]
indicates that death or severe personal injury may result if proper precautions are not taken.

[CAUTION]
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

[CAUTION]
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

[NOTICE]
indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation for the specific task, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

[WARNING]
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be adhered to. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of the Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.
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1.1 Safety instructions

**CAUTION**
In order to avoid substantial damage and for your own safety, note the safety instructions in this documentation and in the operating instructions.

**WARNING**
Function test while installing the device in machines or execute systems
Following the results of a risk analysis, additional protection equipment on the machine or the system is necessary to avoid endangering persons. With this, especially the programming, configuration and wiring of the inserted I/O modules have to be executed, in accordance with the safety performance (SIL, PL or Cat.) identified by the necessary risk analysis. The intended use of the device has to be ensured.

The correct use of the device has to be verified with a function test on the system. This test can detect programming, configuration and wiring errors. The test results have to be documented and, if necessary, entered into the relevant documents that verify safety.

1.2 Unpacking and checking the delivery

1. Please check the packaging material for transport damage upon delivery.

2. If any transport damage is present at the time of delivery, lodge a complaint at the shipping company in charge. Have the shipper confirm the transport damage immediately.

3. Unpack the device.

**NOTICE**
Lie the front side on a soft surface to avoid damaging the front panel USB port.

4. Keep the packaging material in case you have to transport the unit again.

**Note**
The packaging protects the device during transport and storage. Therefore, never dispose of the original packaging material!

5. Please keep the enclosed documentation in a safe place. You will need the documentation when you start up the device for the first time.
6. Check the contents of the package for completeness and transportation damage. Check for completeness using the enclosed scope of delivery list.

7. Should the contents of the package be incomplete or damaged, please inform the responsible supply service immediately and fax us the enclosed form "SIMATIC IPC/PG quality control report".

**WARNING**

Make sure that a damaged device is not installed nor put into operation.

8. Note the identification information (see chapter "Identification data of the device").

**Notes on display**

A small number of faults in the display is unavoidable.

<table>
<thead>
<tr>
<th>Bad pixels</th>
<th>Permissible number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanently bright and permanently dark pixels</td>
<td>≤ 12</td>
</tr>
<tr>
<td>Permanently bright, green pixels</td>
<td>≤ 5</td>
</tr>
</tbody>
</table>

### 1.3 Components of the Product

**Scope of delivery for SIMATIC HMI IPC477C**

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SIMATIC HMI IPC477C</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Documentation and Drivers CD/DVD</td>
<td>Contains the documentation and the hardware drivers.</td>
</tr>
<tr>
<td>1</td>
<td>Operating instructions (compact) SIMATIC HMI IPC 477C / HMI IPC477C PRO</td>
<td>Printed copy in German and English of Operating Instructions (compact).</td>
</tr>
<tr>
<td>6</td>
<td>Clamp</td>
<td>Mounting clamp for SIMATIC HMI IPC477C.</td>
</tr>
<tr>
<td>1</td>
<td>DC power plug</td>
<td>Only supply variant with 24 V DC power supply.</td>
</tr>
</tbody>
</table>
## Scope of delivery for SIMATIC HMI IPC477C PRO

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SIMATIC HMI IPC477C PRO</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Documentation and Drivers CD/DVD</td>
<td>Contains the documentation and the hardware drivers.</td>
</tr>
<tr>
<td>1</td>
<td>Operating instructions (compact)</td>
<td>Printed copy in German and English of Operating Instructions (compact).</td>
</tr>
<tr>
<td>1</td>
<td>Basic adapter</td>
<td>Basic adapter as a basic element for mounting to a supporting arm</td>
</tr>
<tr>
<td>4</td>
<td>Screws</td>
<td>Screws for mounting the basic adapter to an adapter</td>
</tr>
<tr>
<td>1</td>
<td>DC power plug</td>
<td>Only supply variant with 24 V DC power supply.</td>
</tr>
</tbody>
</table>

### 1.4 Device identification data

Enter the identification data of the device into the table.

<table>
<thead>
<tr>
<th>Serial number (on the type plate)</th>
<th>S VP ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order no. of the device</td>
<td>6AV7 884-... (SIMATIC HMI IPC477C)</td>
</tr>
<tr>
<td></td>
<td>6AV7 883-... (SIMATIC HMI IPC477 PRO)</td>
</tr>
</tbody>
</table>

For the versions with Windows Embedded Standard / XP Professional / Windows 7:
- Microsoft Windows Product Key from the "Certificate of Authenticity" (COA)

- Ethernet address 1
  - In the BIOS Setup (F2 Key) under Main > Hardware Options > Ethernet Address

- Ethernet address 2
  - (not for PROFINET versions) in BIOS Setup (F2 key) under Main > Hardware Options > Ethernet Address

- CP 1616 onboard MAC address layer 2
- CP 1616 onboard Mac address PROFINET
1.5 Accessories

These accessories are not included in the product package.

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 GB Compact Flash card</td>
<td>6ES7648 - 2BF02 - 0XF0</td>
</tr>
<tr>
<td>4 GB Compact Flash card</td>
<td>6ES7648 - 2BF02 - 0XG0</td>
</tr>
<tr>
<td>8 GB Compact Flash card</td>
<td>6ES7648 - 2BF02 - 0XH0</td>
</tr>
<tr>
<td>1 GB DDR3 memory module</td>
<td>6ES7648 - 2AH40 - 0AH0</td>
</tr>
<tr>
<td>2 GB DDR3 memory module</td>
<td>6ES7648 - 2AH50 - 0AH0</td>
</tr>
<tr>
<td>4 GB DDR3 memory module</td>
<td>6ES7648 - 2AH60 - 0AH0</td>
</tr>
<tr>
<td>Touch pen</td>
<td>6AV7672 - 1JB00 - 0AA0</td>
</tr>
</tbody>
</table>

Note
Replace Compact Flash cards only with cards of the same product versions
Only SIMATIC PC Compact Flash cards with product version number 02 (ES 02 or higher) can be used for this device.

1.6 Affixing Labeling Strips for Function Keys and Softkeys

Note
The following table applies only to devices with a key panel.

The control unit has two horizontal and two vertical keypads for the function keys and the softkeys. Assign user specific functions to the keys as needed. You can mark these keys with labeling strips. A4 films for creating the labeling strips are available as accessories.

Proceed as follows to affix the labeling strips:
1.6 Affixing Labeling Strips for Function Keys and Softkeys

Preparing the labeling strips

1. Label the DIN A4 film with a laser printer, for example using the printing templates provided on the Documentation and Drivers CD.
2. Cut the labeling strips along the pre-printed lines.

Note
Do not insert handwritten labeling strips until the ink has dried.

Affixing the labeling strips

Insert the labeling strips into the slots provided on the rear of the control unit.

Figure 1-1 12" touch screen device: Device rear with labeling strips
1.6 Affixing Labeling Strips for Function Keys and Softkeys

Figure 1-2  15“ touch screen device: Device rear with labeling strips

① Insert strips, vertical key rows
② Insert strips, horizontal key rows
1.7 Installing/Mounting

1.7.1 Permitted mounting positions

Mounting positions

Only vertical mounting at angles up to +45° and -45° are permitted for the device.

<table>
<thead>
<tr>
<th>Temperature at the device</th>
<th>Angle A</th>
<th>Angle B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear</td>
<td>Front</td>
<td></td>
</tr>
<tr>
<td>0° - 50° C</td>
<td>Max. 40°C</td>
<td>+45°</td>
</tr>
<tr>
<td>0° to 45°C</td>
<td>0° to 45°C</td>
<td>+45°</td>
</tr>
</tbody>
</table>

1) For RAL mounting only (RAL = Restricted Access Location) (installation of device in operating facilities with restricted access - for example, a locked control cabinet)

Mechanical environmental conditions

- Vibration
  - Operation, tested in accordance with DIN IEC 60068-2-6
    10 to 58 Hz: 0.075 mm 58 to 200 Hz: 9.8 m/s²
  - Storage/transport, tested according to IEC 60068-2-27, IEC 60068-2-29
    50 m/s², 30 ms
    250 m/s², 6 ms
1.7.2 Preparing the mounting cut-out

The following illustration shows the dimensions for the mounting cut-out.

Note
Mounting dimensions can be read from the dimension overview or they can be transferred to the cabinet from the mounting template supplied.
Table 1-1 Dimensions for the mounting cut-out in mm

<table>
<thead>
<tr>
<th>Control unit</th>
<th>L1</th>
<th>L2</th>
<th>L3 1)</th>
<th>L4 1)</th>
<th>L5</th>
<th>L6 2)</th>
<th>L7 2)</th>
<th>L8 2)</th>
<th>L9 2)</th>
<th>A1</th>
<th>A2</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5 3)</th>
<th>S6 3)</th>
<th>S7 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12&quot; TFT</td>
<td>450</td>
<td>290</td>
<td>465</td>
<td>235</td>
<td>112</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>16</td>
<td>10</td>
<td>78</td>
<td>78</td>
<td>56</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15&quot; TFT</td>
<td>450</td>
<td>321</td>
<td>465</td>
<td>279</td>
<td>112</td>
<td>186</td>
<td>135</td>
<td>25</td>
<td>165</td>
<td>16</td>
<td>17</td>
<td>51</td>
<td>51</td>
<td>56</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touch panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12&quot; TFT</td>
<td>368</td>
<td>290</td>
<td>—</td>
<td>112</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>16</td>
<td>10</td>
<td>19</td>
<td>35</td>
<td>56</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15&quot; TFT</td>
<td>450</td>
<td>290</td>
<td>465</td>
<td>235</td>
<td>112</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>16</td>
<td>10</td>
<td>81</td>
<td>81</td>
<td>56</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19&quot; TFT</td>
<td>450</td>
<td>380</td>
<td>465</td>
<td>235</td>
<td>112</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>16</td>
<td>10</td>
<td>46</td>
<td>46</td>
<td>—</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) M6 thread or drill holes with a diameter of 7 mm
2) Cut-outs for the shafts of the insert strips are only necessary for 15" key panels.
3) Two clamps necessary for vertically securing clamps only for 19" touch panel fronts.

Preparing the mounting cut-out

Steps for preparing the mounting cut-out

1. Select a location suitable for mounting, taking into account the mounting position.
2. On the basis of the dimensions, check whether the required screw and pressure points on the rear and the seal area are easily accessible after the completion of the mounting cut-out. Otherwise the mounting cut-out is useless.
3. Complete the mounting cut-out in accordance with the dimensions.

1.7.3 Securing the Device with Clamps

You require 6 clamps in order to mount the device. These are supplied with the device.

Required tool for fastening the clamps: Allen wrench 2.5 mm

Figure 1-4 Clamp assembly
1.7 Installing/Mounting

**Rack mounting**

<table>
<thead>
<tr>
<th>Steps for fastening the device with clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Follow the installation instructions.</td>
</tr>
<tr>
<td>2. Disconnect the device from the power supply.</td>
</tr>
<tr>
<td>3. Working from the front, insert the device into the 19&quot; rack.</td>
</tr>
<tr>
<td>4. Fasten the control unit in the rack from the rear using the clamps. Tighten the setscrews to a torque of 0.4-0.5 Nm.</td>
</tr>
</tbody>
</table>

**Swivel arm mounting**

<table>
<thead>
<tr>
<th>Steps for fastening the device with clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Follow the installation instructions.</td>
</tr>
<tr>
<td>2. Disconnect the device from the power supply.</td>
</tr>
<tr>
<td>3. Working from the front, place the device onto the swivel arm.</td>
</tr>
<tr>
<td>4. Fasten the control unit on the swivel arm from the rear using the clamps. Tighten the setscrews to a torque of 0.4-0.5 Nm.</td>
</tr>
</tbody>
</table>

**Control cabinet installation**

<table>
<thead>
<tr>
<th>Steps for fastening the device with clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Follow the installation instructions.</td>
</tr>
<tr>
<td>2. Disconnect the device from the power supply.</td>
</tr>
<tr>
<td>3. Working from the front, insert the device into the mounting cut-out.</td>
</tr>
<tr>
<td>4. Secure the control unit in the mounting cut-out from behind with the clamps, as shown in the mounting cut-out in the dimensions. Tighten the setscrews to a torque of 0.4-0.5 Nm.</td>
</tr>
</tbody>
</table>

**IP65 degree of protection**

The IP65 degree of protection is only provided for a clamp mounting together with a ring seal.

**NOTICE**

**Control cabinet installation: Material strength at the mounting cut-out**

Please ensure that the material strength at the mounting cut-out is a maximum of 6 mm. Read the information for the dimensions in the Preparing the mounting cut-out (Page 12) section.

The degree of protection can only be guaranteed when the following requirements are met:
1. The material strength at the mounting cut-out must be at least 2 mm.
2. The deviation from the plane of the mounting cut-out in relation to the external dimensions for an installed HMI device is ≤ 0.5 mm.
1.7.4 Securing the Device with Screws

IP54 degree of protection

This degree of protection is ensured for screw mounting.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control cabinet installation: Material strength at the mounting cut-out</td>
</tr>
</tbody>
</table>

Please ensure that the material strength at the mounting cut-out is a maximum of 6 mm. Read the information for the dimensions in the Preparing the mounting cut-out (Page 12) section.

The degree of protection can only be guaranteed when the following requirements are met:
1. The material strength at the mounting cut-out must be at least 2 mm.
2. The deviation from the plane of the mounting cut-out in relation to the external dimensions for an installed HMI device is ≤ 0.5 mm.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securing with screws is not possible with the 12” touch screen variant.</td>
</tr>
</tbody>
</table>

Required tool for fasting with screws: 7 mm drill

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only use the catalog-listed mounting material (order number 6AV7672-8KE00-0AA0) for 19&quot; devices for screw mounting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of damage</td>
</tr>
</tbody>
</table>

Ensure that no metal cuttings enter the device when the holes are drilled. Cover the device with film or when drilling, use removal by suction.

Figure 1-5 Designated location for holes on the control unit
1.7 Installing/Mounting

Rack mounting

Steps for fastening the device with screws

1. Follow the installation instructions.
2. Carefully drill the respective holes in the control unit at the designed location from the rear.
3. Working from the front, insert the device into the 19" rack.
4. Secure the control unit by inserting suitable screws through the holes and attaching nuts.

Swivel arm mounting

Steps for fastening the device with screws

1. Follow the installation instructions.
2. Carefully drill the respective holes in the control unit at the designed location from the rear.
3. Working from the front, place the device onto the swivel arm.
4. Secure the control unit by inserting suitable screws through the holes and attaching nuts.

Control cabinet installation

Steps for fastening the device with screws

1. Follow the installation instructions.
2. Drill suitable holes at the prepared installation cut-out in accordance with the specifications for L4 and L5, as shown at the dimensions in the mounting cut-out.
3. Carefully drill the respective holes in the control unit at the designed location from the rear.
4. Working from the front, insert the device into the mounting cut-out.
5. Secure the control unit by inserting suitable screws through the holes and attaching nuts.
1.8 Connecting

1.8.1 Connection elements and operator controls

Connection components of computer unit

![Connection components diagram]

1. 24 VDC Power supply connection
2. DVI DVI-I socket
3. USB 4 USB 2.0 / 500 mA connections
4. ETHERNET 2 RJ45 Ethernet connections for 10/100/1000 Mbps
5. COM 1 Serial port 1 (RS232) 9-pin Cannon socket
6. PROFIBUS DP/MPI PROFIBUS-DP/MPI interface (RS 485, electrically isolated), 9-pin Cannon socket

![Variants with PROFIBUS]

Figure 1-6 Variants with PROFIBUS

4. ETHERNET 1 RJ45 Ethernet connection for 10/100/1000 Mbps
6. PROFINET CP 1616 onboard interface, three RJ45 sockets

![Variants with PROFINET]

Figure 1-7 Variants with PROFINET
Connection components of the control unit

① 1 USB 2.0 connection, high current / 500 mA below sealed cover

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ensuring degree of protection P65 (front)</strong></td>
</tr>
<tr>
<td>When the sealed cover over the USB port is removed in order to connect a USB component, the degree of protection for the front of the device is no longer guaranteed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of USB devices</strong></td>
</tr>
<tr>
<td>• Wait at least ten seconds between removal and reconnection of USB devices. This also applies to control units with touch screen panels, especially for touch operation.</td>
</tr>
<tr>
<td>• When using standard USB peripherals, bear in mind that their EMC immunity level is frequently designed for office applications only. These devices may be used for commissioning and servicing. However, only industry-standard devices are allowed for industrial operation.</td>
</tr>
<tr>
<td>• Peripherals are developed and marketed by individual vendors. The respective manufacturers offer support for the peripherals. Moreover, the terms of liability of the individual vendors or suppliers apply here.</td>
</tr>
</tbody>
</table>
1.8.2 Connecting the 24 VDC power supply

To be noted before you connect the device

Note the following in order to operate the device safely and according to regulation:

⚠️ **WARNING**

The generation of the 24 VDC supply voltage by the line-side power supply must be made as functional extra-low voltage with safe electrical isolation according to IEC 60364--4--41 or as SELV in conformity to IEC/UL/EN/DIN-EN 60950-1 and LPS / NEC Class 2.

The PE conductor on the device needs to be connected to the PE conductor which is integrated in the cabinet.

**NOTICE**

The 24 VDC power source must be adapted to the input data of the device (see the technical specifications in the operating instructions).

**NOTICE**

Permissible conductor cross-section for the 24 VDC connecting cable: 0.75 mm² to 2.5 mm².

**NOTICE**

If a Compact Flash card is used in the device, make sure that the card is seated correctly before you connect it.

On-off switch

⚠️ **CAUTION**

Power is on

The On/Off switch does not isolate the device from the power supply.

Always disconnect the power cord to isolate the device from the power supply.

Position of the on/off switch

The on/off switch ① turns off the output voltages of the power supply without isolating the unit from mains.

Delivery condition: Power switch turned off.
Connecting the IPC477C

Steps for connecting the IPC477C to the 24 V DC power supply

1. Switch off the 24 VDC power supply.
2. Connect the power supply using the connector (included in the scope of delivery).
3. Connect the PE conductor as described in section connecting the PE conductor (Page 21).

The power consumption at 24 V amounts to 60 W maximum.

Connecting the IPC477C PRO

Steps for connecting the IPC477C PRO to the 24 V DC power supply

1. Remove the ten screws from the rear panel of the housing.
2. Lift up the rear panel slightly and then remove it.
3. Connect the power supply ① using the connector (included in the scope of delivery).
4. Connect the PE conductor as described in section connecting the PE conductor (Page 21).

The power consumption at 24 V amounts to 60 W maximum.
1.8.3 Connecting the PE conductor

The PE terminal (M4 thread) on the device (large surface, large-area contact) must be connected to the PE conductor on the cabinet or system in which the PC is to be installed. The minimum conductor cross-section may not be less than 5 mm².

The PE terminal is needed to protect the device and ensures that interference signals generated by external power cables, signal cables or cables to the I/O modules are safely discharged to earth.

Procedure: PE conductor connection for IPC477C

Required tool: TORX T20 screwdriver.

<table>
<thead>
<tr>
<th>Steps for connecting the PE conductor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Connect the PE terminal (M4 thread) ① on the device to the PE conductor on the cabinet or system in which the PC will be installed. The minimum conductor cross-section may not be less than 5 mm².</td>
</tr>
</tbody>
</table>

Procedure: PE conductor connection for IPC477C PRO

Required tool: TORX T20 screwdriver.

<table>
<thead>
<tr>
<th>Steps for connecting the PE conductor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remove the ten screws from the rear panel of the housing.</td>
</tr>
<tr>
<td>2. Lift up the rear panel slightly and then remove it.</td>
</tr>
</tbody>
</table>
1.9 Commissioning

1.9.1 Commissioning Information

**Note**

**Initial commissioning of Windows Embedded Standard**

System startup can take longer than usual for the initial commissioning. Only a blue screen is displayed for several minutes.

---

**NOTICE**

**Windows Embedded Standard: Observe EWF Information**

A configurable write filter (Enhanced Write Filter) is available in Windows Embedded Standard. Observe the EWF information in the operating instructions during activation and use, since a data loss may otherwise occur.

---

**Note**

For information about the installation of the CompactFlash card with Windows Embedded Standard operating system, refer to the operating instructions.
1.9.2  Basic commissioning - initial startup

Requirement

- The device is connected to the 24 VDC power supply.
- The ground conductor is wired.
- The cables are correctly plugged in.

Setting up the operating system

Note

Initial commissioning of Windows Embedded Standard
System startup can take longer than usual for the initial commissioning. Only a blue screen is displayed for several minutes.
The devices with touch panel require a USB mouse or USB keyboard for commissioning.

During the initial startup of the computer, the operating system that is preinstalled on the Compact Flash card or Solid State Drive (SSD) is set up automatically.

Proceed as follows:

1. Switch the device on using the On/Off switch. The device now performs a power-on self test. During the self-test, this message appears:
   
   Press <F2> to enter SETUP or <ESC> to display the Boot menu

2. Wait until this message is cleared, then follow the instructions on the screen.

---

NOTICE

The device may not be switched off at any time during the installation process.
Do not change the default BIOS settings, otherwise the operating system setup may become corrupted.

3. Restart
   After you have entered all the necessary information and the operating system is configured, you are prompted to restart the system. Acknowledge this prompt with Yes.

Note

System startup can take longer than usual for the initial commissioning. The screen display "FBReseaos Resealing in progress..." is shown for several minutes.

Note

Errors and warnings can be displayed in the status bar, with the first and second switch on of the initial commissioning or after a restore procedure This will have no effect on the device functions.
As of now, the operating system automatically opens its user interface on completion of the startup sequence.

**Note**
To prevent data loss, it is advisable to create an image of your system partition after initial commissioning.

**Switching off the device**
When you work with Windows Embedded Standard, always shut down the PC with the command **Start > Shut Down**.

**Note**
The Enhanced Write Filter should be enabled following the installation of Windows Embedded Standard on a Compact Flash card or SSD.

**1.9.3 Setting up the language selection in Windows Embedded Standard 2009**
Windows Embedded Standard 2009 offers the option of selecting the menu and dialog languages. You can select the German and English languages.

**Setting up the language selection**
Windows Embedded Standard 2009 is set up by default with English menu and dialog language and US international keyboard layout. You can change the language in the Control Panel by selecting:

```
Start > Settings > Control Panel > Regional and Language Options > Languages tab, Language used in menus and dialogs field.
```
In addition to the menu and dialog language, select **Regional and Language Options** and set the default to **non-Unicode programs** in the **Advanced** section.
1.9.4 Language selection in Windows Embedded Standard 7

Changing languages is possible using the Restore CD/DVD (forms part of the scope of delivery). The CD/DVD contains the required language packages and help for changing the system language.

Note

Note the license terms of Windows Embedded Standard 7

Please note the license terms for Windows Embedded Standard 7 and especially the extended SIEMENS AG Software terms for Windows Embedded Standard 7.

You can find the license terms in the delivered document "MICROSOFT SOFTWARE LICENSE TERMS for Windows Embedded Standard 7(E)" and in the system drive under \Windows\System32\license.rtf.

Change system language

To change the language for Windows Embedded Standard 7, follow these steps:

Prerequisite:
The "Legacy USB Support" option has to be set to "Enabled" in the Advanced menu of the BIOS so that the device can address a USB CD-ROM drive.

1. Connect a USB CD-ROM drive to the device.
2. Insert the Restore CD/DVD in the drive, restart the device and when the BIOS message: Press <F2> to enter Setup or <ESC> to show Boot menu appears, press the F2 key.
3. Select the Boot menu and move the entry "CD-ROM Drive" to the first position.
4. End the BIOS setup with the "Exit Saving Changes" entry.
5. Follow the on-screen instructions.
6. After selecting the menu dialog language of the Restore CD/DVD, select the menu entry "Select language packages".

Depending on the current language setup, you have the following options in the "Select language packages" menu:
- Display language settings
- Install language
- Change language
- Remove the "Non-system language".

Note

The "Install language or Deinstall language" process can take several minutes.

Note

The "Legacy USB Support" option has to be set to "Enabled" in the Advanced menu of the BIOS so that the device can address a USB CD-ROM drive.
1.9.5 Setting the panel type

1.9.5.1 First commissioning

Initial commissioning

- The "SIMATIC PC Wizard" program is automatically started once during commissioning.
- The "SIMATIC PC Wizard" implements the specific settings for the SIMATIC Panel PC during the initial startup of the operating system.
- Several dialogs appear on screen during initial commissioning of the SIMATIC Panel PC.

**NOTICE**
Start the PC for commissioning in an unchanged delivery state and follow the dialogs until their conclusion.

Procedure

Device-specific drivers are set during the hardware detection and configuration phase.

![Simatic PC Wizard Version 4.4](image)

Welcome to Simatic PC Wizard

This wizard will help you to detect the correct properties and settings for your Panel PC.

Please wait while PC Wizard is checking your system …

Please wait …

The type of SIMATIC PC is selected and detected automatically.
1.9.5.2 Touch panel configuration

Touch screen calibration

1. Calibrate the touch screen by clicking the wizard.

2. Click "Finish".
Compact Operating Instructions

1.9 Commissioning

Note
On-screen keyboard (OSK)
- If the "enable" checkbox is selected, the Windows on-screen keyboard is displayed for logon at every program start. You can use this keyboard to enter the administrator password, for example. An external keyboard is then not necessary.
- If you clear the checkbox, the on-screen keyboard is not displayed.
- In Windows 7, the on-screen keyboard is not displayed until a password is assigned to the user account.

3. Use the "Finish" button to close the wizard. The HMI device will be restarted automatically for the respective configuration.

1.9.5.3 Key panel configuration

1. Follow all dialogs until the end.
2. Click "Finish".

Note
On-screen keyboard (OSK)
- If the "enable" checkbox is selected, the Windows on-screen keyboard is displayed for logon at every program start. You can use it, for example, to enter the administrator password. An external keyboard is then not necessary.
- If you clear the checkbox, the on-screen keyboard is not displayed.
- In Windows 7, the on-screen keyboard is not displayed until a password is assigned to the user account.

1. Use the "Finish" button to close the wizard. The HMI device will be restarted automatically for the respective configuration.
1.9.5.4 **Automatic restart**

An automatic restart is performed after every configuration.

![System Shutdown](image)

1.9.6 **Device with key panel**

1.9.6.1 **Activating KeyTools**

SIMATIC KeyTools is one selection of the applications for SIMATIC Panel PC. These applications allow you to adapt key codes that are sent by the key panel of the control unit.

SIMATIC KeyTools consists of the following applications:

- **Key code table**: Loading and editing of key code tables.
- **WinCC hotkey function**: WinCC hotkey function activation and deactivation.
- **Security features**: Lock function that prevents two function keys from being activated simultaneously. This prevents incorrect operations and undefined states of the application program.

**Note**

For a detailed description of the SIMATIC KeyTools, refer to the help menu and the application description on the Documentation & Drivers DVD.

**Opening Keytools**

1. Open Keytools with the command **Start > Settings > Control Panel > SIMATIC KeyTools**.
2. Select the desired application and follow the instructions on the screen.

**NOTICE**

**Malfunctions of the user software**

For security reasons always use the "Security features". If you deactivate it nevertheless, serious malfunctions of the user software may occur when the additional function keys and softkeys F13 to S16 are used or if own key code tables are used.
1.9.7 Device with touch screen

1.9.7.1 Recalibrating the Touch Screen

If the touch screen does not react as expected when touched, repeat the calibration.

Procedure for standard calibration

1. Select "Start > Programs > UPDD > Settings".
   The "UPDD Console" dialog box opens.

2. Select the controller ① you wish to calibrate.
3. Click the "Calibration" tab ②.
4. Select the "Number of points" option with the "25 point calibration" ③.
5. Click "Calibrate" ④.
   The calibration mask is output on the selected display.
6. Quickly touch the corresponding selections one after the other.
   The entry is confirmed by a check mark, the next selection is displayed.
7. Confirm all input prompts (arrows, or crosses in the center) until the complete screen has been calibrated.
8. Finally, confirm the prompt with "Confirm".

![Diagram of calibration process]
Procedure for EEPROM calibration

1. Select "Start > Programs > UPDD > Settings". The "UPDD Console" dialog box opens.

2. Select the controller ① you wish to calibrate.

3. Click the "Calibration" tab ②.

   The "Use eeprom storage" ⑤ option is selected by default for touch controllers with EEPROM.
   The "Number of points" option box indicates "3-point calibration" ③.

4. Click "Calibrate" ④.

   The calibration mask is output on the selected display.

5. Quickly touch the corresponding selections one after the other.

   The entry is confirmed by a check mark, the next selection is displayed.

6. Confirm all input prompts (arrows, or crosses in the center) until the complete screen has been calibrated.

   **Note**

   If the screen does not respond to touching as expected, check the specified controller (marked in black) in "UPDD Console" and repeat the calibration.

   Only an active controller can be calibrated. A removed controller is marked in red.

   If 3 point calibration does not suffice for the operator panel, you can clear it in the "Use eeprom storage" option box and use the standard calibration (25 point calibration).

   Currently only the Touch Controller "ELO 2216 (USB)" supports EEPROM calibration.
Extended Touch touch functionality

1. Select "Start > Programs > UPDD > Settings". The "UPDD Console" dialog box opens.

2. Select the corresponding controller.

The "Extended touch" option is preset for Windows 7.

---

Note

The "Extended touch" functionality is only available for Windows 7 Ultimate.

If "Extended touch" is selected, the extended touch functions of Windows 7 will be available, such as "operating touch permanently", which corresponds to the right mouse button function.

---

Note

The "EventSelector" program works only with disabled "Extended touch" function.
1.9.7.2 Activating the Screen Keyboard

You can operate the device by means of a virtual screen keyboard. You can use it to enter the characters directly on the touch screen or with the mouse.

Starting Touch Input

Start the "Touch Input" application on the desktop. The screen keyboard is displayed.

(1) Button for language selection: German, English, Italian, Spanish, French
1.10 Service and support

Local information
Contain your Siemens representative (http://www.siemens.com/automation/partner) if you have questions about the products described here.

Technical documentation for SIMATIC products
You can find additional documentation for SIMATIC products and systems in the Internet: SIMATIC Guide manuals (http://www.siemens.com/simatic-tech-doku-portal)

Easy shopping at the mall
You can find the online catalog and order system under: Industrial Automation and Drive Technologies (http://mall.automation.siemens.com)

Training center
All the training options are listed at: SITRAIN homepage (http://www.sitrain.com)

Technical support
You can contact technical support for all Industry Automation and Drive Technologies products by:
- E-mail: support.automation@siemens.com
- Internet: Online support request form: (http://www.siemens.com/automation/support-request)

When you contact the customer support, please have the following information for the technician on hand:
- BIOS version
- Order No. (MLFB) of the device
- Installed additional software
- Installed additional hardware

Online Service & Support
Information about the product, Support and Service, right through to the Technical Forum, can be found at: Industry Automation and Drive Technologies - Homepage (http://www.siemens.com/automation/service&support)

After-sales information system for SIMATIC PC / PG
Information about contacts, drivers, and BIOS updates, FAQs and Customer Support can be found at: After-sales information system for SIMATIC PC/PG (http://www.siemens.com/asis)
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