SIMATIC IPC477D

The SIMATIC IPC477D is a compact device comprising an operator control unit with integral computer unit.

**Basic design:**
- Rugged metal enclosure, resistant to vibration and shock, with high electromagnetic compatibility
- Graphics onboard for additional monitor/flat panel, on AGP bus: DVI-I: VGA (analog) and DVI (digital); display port
  - Display port resolution: Up to 1920 x 1200 pixels / true color / 60 to 120 Hz
  - DVI-I resolution: Up to 1920 x 1200 pixels / true color
- Interfaces:
  - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45)
  - 4 x high-speed USB V3.0
  - 1 x COM1 (RS232)
- Isolated power supply: 24 V DC (19.2 to 28.8 V)

**Computer unit configurations**
- Processor:
  - Celeron 827E; 1.4 GHz, 1.5 MB cache
  - Core i3-3217UE; 2 x 1.6 GHz, 3 MB cache
  - Core i7-3517UE; 2 x 1.7 GHz (turbo boost up to 2.8 GHz), 3 MB cache
- Main memory capacity 1 GB (2/4/8 GB optional), DDR3 SDRAM
- Fieldbus
  - PROFINET onboard, 3 x RJ45, compatible with CP 1616
  - PROFIBUS DP/MPI on board, compatible with CP 5622
- Hardware expansion:
  - Second RS232 interface (COM2) onboard
  - Up to 1 x PCIe card (not with 12" TFT Touch)
- Drives:
  - Solid-state drive 80 GB standard, rugged alternative to hard disk
  - FlashDrive (replaceable, accessible): 2 GB, 4 GB, 8 GB or 16 GB
  - FlashDrive (internal, not accessible): 2 GB, 4 GB, 8 GB, 16 GB
  - Serial ATA hard disk, 2.5" (not with 12" TFT Touch)
  - Optical DVD drive (not with 12" TFT Touch)
- Preinstalled operating systems:
  - Windows 7 Ultimate MUI
  - Windows Embedded Standard 7

**SIMATIC IPC477D (Panel PC):**
*The powerful embedded Panel PC – maintenance-free with versatile configuration*
- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free
  (no rotating components such as fan and hard disk)
- Rugged construction:
  The PC is resistant to even the harshest mechanical stress and is extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability

The following front versions are available:
- Built-in versions:
  - 12" TFT Touch
  - 15" TFT Touch
  - 15" TFT Touch/Key
  - 19" TFT Touch
  - 22" TFT Touch
  - 19" TFT Multi-Touch
  - 22" TFT Multi-Touch
Components of the operator control unit:
The operator control units are available in the following versions:

12" Touch
- 12" TFT color display, 1280 x 800 pixels
- Resistive analog touch screen
- Constraints: No PCIe, no HDD, no DVD, no AC power supply, no front USB

15" Touch
- 15" TFT color display, 1280 x 800 pixels
- Resistive analog touch screen
- USB V2.0 port (on the front)

15" Touch/Key
- 15" TFT color display, 1200 x 800 pixels
- Touch and membrane keyboard ("cell phone keyboard") and additional 36 function keys
- USB V2.0 port (on the front)

19" Touch
- 19" TFT color display, 1366 x 768 pixels
- Resistive analog touch screen
- USB V2.0 port (on the front)

22" Touch
- 22" TFT color display, 1920 x 1080 pixels
- Resistive analog touch screen
- USB V2.0 port (on the front)

Expansion components
- 1 x PCIe-x4 expansion card can be used. Max. permissible power loss: 5 W
- For connecting additional I/O devices there are 4 high-speed USB3.0 interfaces and up to two serial interfaces available.

SIMATIC IPC DiagMonitor
- PC diagnostics/alarm software for early detection and diagnosis of PC problems
- Comprehensive monitoring of temperature, watchdog
- Operating hours counter for preventive maintenance
- Integrated log functions, comprehensive text messages, online help (English/German)
- Network-wide monitoring via SNMP and OPC interface possible

SIMATIC IPC Image & Partition Creator
- Software tool for preventive data back-up of the contents of mass storage devices (CF cards, hard disks)
- High-speed restoring of system and data partitions with bit accuracy; user software and special installations are also backed up
- Software tool for adaptation of mass storage partitioning

SIMATIC IPC USB FlashDrive
- Mobile memory medium for SIMATIC PC/PG
- Fast data transfer (USB 2.0) and high memory capacity
- Ultra-compact and rugged

SIMATIC IPC Service USB FlashDrive
- Mobile memory medium for backing up/restoring mass memories
- Pre-installed Image & Partition Creator and BIOS Manager
- Ultra-compact and rugged

Technical specifications SIMATIC IPC477D

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<tr>
<th>SIMATIC panel PC</th>
<th>SIMATIC IPC477D</th>
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<tbody>
<tr>
<td><strong>General features</strong></td>
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<tr>
<td>Supply voltage¹</td>
<td>• 24 V DC (-20 % / +20 %) ¹</td>
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<td></td>
<td>• 100 ... 240 V AC (-15 % / +20 %); 50 - 60 Hz</td>
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<tr>
<td>Brief voltage interruption in accordance with NAMUR</td>
<td>• Min. 20 ms (DC)</td>
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<td></td>
<td>• Min. 20 ms (AC); max. 10 events per hour; min. 1 s recovery time</td>
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**Power consumption (DC) of devices (without expansions)**
- 12" display 55 W
- 15" display 56 W
- 19" display 65 W
- 22" display 74 W

**Additional power consumption of devices with expansions**
- DVD drive 1 W
- PCIe card 5 W

**Processor**
- Intel Celeron 827E 1.4 GHz; 1.5 MB SLC
- Intel Core i3-3217UE 1.6 GHz; 3 MB SLC
- Intel Core i7-3517UE 1.7 GHz; 4 MB SLC

**Main memory**
- SO-DIMM module; 1024 MB DDR3-SDRAM or 1024 MB DDR3-SDRAM or 2048 MB DDR3-SDRAM or 4096 MB DDR3-SDRAM or 8192 MB DDR3-SDRAM

**Buffer memory**²
- 512 KB MRAM

**Drive and storage media**
- SATA drive 1 slot
- Solid-state drive 1 x ≥ 80 GB; 2.5" SATA-SSD, standard or 1 x ≥ 160 GB; 2.5" SATA-SSD, standard
- Hard disk drive (HDD) 1 x ≥ 250 GB, 2.5"-SATA-HD
- CFast card 2 GB, 4 GB, 8 GB or 16 GB
- DVD drive, RW 1 slot for devices with expansion

¹ The generation of the supply voltage by the line-side power supply must be realized as safety extra-low voltage with safe electrical isolation, isolated according to IEC 60664 4 41, or as SELV according to IEC/UL/EN/DIN-EN 60950-1.
² for devices with retentivity
### SIMATIC panel PC

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<th>Graphics</th>
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| Display, resolution | • 12” screen diagonal with LED backlighting, resolution 1,280 x 800 pixels, WXGA (Wide XGA)  
• 15” screen diagonal with LED backlighting, resolution 1,280 x 800 pixels, WXGA (Wide XGA)  
• 19” screen diagonal with LED backlighting, resolution 1,366 x 768 pixels  
• 22” screen diagonal with LED backlighting, resolution 1,920 x 1,080 pixels |
| Touch controller | Analog-resistive or capacitive touch |
| Backlighting (MTBF) | LED |
| Half brightness life time, typical | Min. 50,000 h at 50 °C, 50 % brightness |
| Graphics controller | • Intel HD 2000 or  
• Intel HD 4000 |
| Graphics memory | 32 … 512 MB shared memory |
| Resolutions, frequency, colors | • DVI-I: 640 x 480 … 1,920 x 1,200, 60 Hz  
• DP display port: 1,920 x 1,200, 60 Hz |
| Interfaces |  |
| COM 1 and COM 2 | RS 232, max. 115 kbps, 9-pin, sub-D connector |
| DVI | Connection of VDUs with DVI connection |
| Display port (DPP) | Connection of VDUs with DPP connection |
| Keyboard | Connection via USB port |
| Mouse | Connection via USB port |
| USB | • Rear of device: 4 x USB 3.0, max. 2 high-current at the same time  
• Front of device (only with IPC477D with 15”, 19” or 22” display): 1 x USB 2.0, high-current |
| PROFIBUS/MPI | 9-pole, 2 rows, electrically isolated, Sub-D socket, compatible with CP 5622 |
| • Transmission rate | 9.6 Kbps … 12 Mbps |
| • Operating modes | DP master: DP-V0, DP-V1 with SOFTNET-DP  
DP slave: DP-V0, DP-V1 with SOFTNET-DP slave |
| PROFINET | 3 x RJ45 interface, CP 1616-compatible onboard interface based on ERTEC 400  
10/100 Mbps, electrically isolated |
| Ethernet | • 2 x RJ45 connection, Intel 82579LM and Intel 82574L, 10/100/1000 Mbps, electrically isolated, teaming-capable  
or  
• For PROFINET versions: 1 x Ethernet |

### SIMATIC IPC477D

| Slot for PCIe expansion cards | Only for device with expansions: 1 x PCIe-x4 expansion card can be used, max. permissible power loss: 5 W |

#### Degree of protection

| Degree of protection | • IP 20 to IEC 60529 (enclosure)  
• IP 65 (front) |

#### Quality assurance acc. to ISO 9001 standard

#### Electromagnetic compatibility

| Emitted interference S | EN 61000-6-4; CISPR 22 Class A; FCC Class A |
| Immunity with regard to conducted interference on the supply lines | • ± 2 kV to IEC 61000-4-4; burst  
• ± 1 kV to IEC 61000-4-4; surge symmetrical  
• ± 2 kV to IEC 61000-4-4; surge asymmetrical |
| Noise immunity on signal lines | • ± 2 kV to IEC 61000-4-4; burst, length > 3 m  
• ± 1 kV to IEC 61000-4-4; burst, length < 3 m  
• ± 2 kV to IEC 61000-4-4; symmetrical surge, length > 3 m |
| Immunity to static discharge | • ± 6 kV, contact discharge at the front to IEC 61000-4-2  
• ± 4 kV contact discharge at the rear to IEC 61000-4-2  
• ± 8 kV air discharge to IEC 61000-4-2 |
| Immunity to high radio frequency interference | • 10 V/m, 80 … 1000 MHz; 80 % AM to IEC 61000-4-3  
• 1 V/m, 2 … 2.7 GHz  
• 3 V/m, 2 … 2.7 GHz  
• 10 V, 10 kHz … 80 MHz to IEC 61000-4-6 |
| Immunity to magnetic fields | 100 A/m, 50/60 Hz to IEC 61000-4-8 |

#### Weight IPC477D

| Touch, 12” display | approx. 3,200 g |
| Touch, 15” display | approx. 4,900 g |
| Touch/key (w/o expansions), 19” display | approx. 5,750 g |
| Touch, 19” display | approx. 6,400 g |
| Touch, 22” display | approx. 7,000 g |

3) for unambiguous labeling, the Ethernet ports are numbered on the enclosure. The numbering by the operating system can differ.

4) Teameting can be set and initiated in the configuration interface. In teaming operation, jumbo frames, e.g. for the camera application, are not supported.
All measurements in mm.
All measurements in mm.

**More information**

More information on SIMATIC IPC is available at:  
[www.siemens.com/simatic-ipc](http://www.siemens.com/simatic-ipc)

A current overview of the configurations is provided by the SIMATIC IPC online configurator:  
[www.siemens.com/ipc-configurator](http://www.siemens.com/ipc-configurator)

In-depth information is available in the SIMATIC manuals:  
[www.siemens.com/simatic-doku](http://www.siemens.com/simatic-doku)

Information material for download:  
[www.siemens.com/simatic/printmaterial](http://www.siemens.com/simatic/printmaterial)

Technical documentation is available in our Service & Support portal:  
[www.siemens.com/automation/support](http://www.siemens.com/automation/support)

Your personal contact partner is listed at:  
[www.siemens.com/automation/partner](http://www.siemens.com/automation/partner)

Electronic ordering via the Internet with the Mall:  
[www.siemens.com/industrymall](http://www.siemens.com/industrymall)

Additional information on PC-based Automation with SIMATIC is available under:  

Additional information on the TIA Portal:  
[www.siemens.com/tia-portal](http://www.siemens.com/tia-portal)

Additional information on SIMATIC Safety Integrated:  
[www.siemens.com/f-cpu](http://www.siemens.com/f-cpu)