To be able to respond to the increasing international competitive pressure, it is more important than ever to consistently make full use of the potential for optimization – over the complete lifecycle of a machine or plant.

Optimized processes reduce the total cost of ownership, shorten the time to market, and improve quality. This perfect balance between quality, time, and costs is now, more than ever, the decisive success factor in industry.
Totally Integrated Automation is optimally aligned to all requirements and open for international standards and third-party systems. With its six characteristic system features (engineering, communications, diagnostics, safety, security, and robustness), Totally Integrated Automation supports the complete lifecycle of a machine or plant. The complete system architecture offers holistic solutions for every automation segment on the basis of a comprehensive range of products.

SIMATIC: more efficient and systematic automation

SIMATIC, a core component of Totally Integrated Automation, includes a variety of standardized, flexible, and scalable products – such as the SIMATIC IPCs presented in this brochure.

SIMATIC is currently considered to be the global number one in automation. One of the decisive reasons for this is that SIMATIC exhibits the six system features of Totally Integrated Automation:
- Engineering
- Communication
- Diagnostics
- Safety
- Security
- Robustness

In addition, SIMATIC features two additional system features:
- Technology
- High availability

You can find more about the system features and the resulting advantages in the following chapter “System features”.

SIMATIC IPC – the more industrial PC

More ruggedness and system availability
More product diversity and selection options
More application options
More networking options
More quality, safety and environmental protection
More continuity and long-term availability
More service and support

SIMATIC Rack PC – flexible and powerful in 19” design

IPC547C
IPC647C
IPC847C

SIMATIC Box PC – compact and rugged for universal applicability

IPC427C
IPC627C
Box PC 827B

SIMATIC Panel PC – rugged and powerful with brilliant displays

HMI IPC477C
HMI IPC577C
HMI IPC677C

Distributed operation and monitoring
Device versions for special requirements
All-round protection and stainless-steel fronts
Intrinsically safe SIMATIC Panel PCs and Thin Clients
Individually expandable system availability
Prevention of potential failures
SIMATIC PC DiagMonitor
Minimization of downtimes
SIMATIC PC-based Automation
Original accessories
Customized products
Online configuration and ordering
Maximum engineering efficiency –
in all phases of the lifecycle of the machine and plant
With SIMATIC you rely on an integrated engineering environment. Efficient software supports you over the complete lifecycle of your machine or plant – from the planning and design stages through configuring and programming as far as commissioning, operation and upgrading. With its integration capability and harmonized interfaces, SIMATIC software supports a high degree of data consistency – throughout the entire engineering process.

Maximum data transparency on all automation levels –
based on proven standards
SIMATIC creates the foundations for unlimited integration in communication – and thus for maximum transparency on all levels, from the field and control level to the operations management level all the way up to the corporate management level. SIMATIC relies on international, cross-vendor standards which can be combined flexibly: PROFIBUS, the global No. 1 fieldbus, and PROFINET, the leading Industrial Ethernet standard.

Minimization of downtimes –
through efficient diagnostic concepts
All SIMATIC products feature integrated diagnostic functions with which a fault can be identified and eliminated to provide increased system availability. Even with larger plants, the Maintenance Station provides you with a uniform view of the maintenance-relevant information of all automation components.

Protection of personnel and machines –
within the framework of an integrated complete system
SIMATIC Safety Integrated offers TÜV-certified products, which facilitate compliance with relevant standards: IEC 62061 up to SIL 3, EN ISO 13849-1 up to PL e, as well as EN 954-1. Due to the integration of safety technology in standard technology, only one controller, one I/O, one engineering, and one bus system are required. Thus the system advantages and comprehensive functionality of SIMATIC are also available for fail-safe applications.
Data security in the networked world – through harmonized, scalable security systems
With SIMATIC you can use all the advantages that result as the worlds of automation and office grow together more and more: Seamless exchange of data across all levels (Collaborative Manufacturing), or access to production data via the Internet from any location. In order to meet the resulting increased security requirements, SIMATIC offers you IT Security for the protection of production and data, e.g. by means of firewall functions, access protection, encryption, and Virtual Private Networks.

Maximum industrial suitability – through increased robustness
Each standard product from the SIMATIC range is characterized by the highest quality and robustness and is perfect for use in industrial environments. Specific system tests ensure the planned and required quality. SIMATIC components meet all relevant international standards and are certified accordingly. Temperature and shock resistance are defined in the SIMATIC quality guidelines, as are vibration resistance or electromagnetic compatibility. For demanding to extreme rated conditions, special versions such as SIPLUS extreme or special versions of SIMATIC ET 200 are available. These include an increased degree of protection, extended temperature ranges, and exceptional environmental stress.

Integrated technology functions – counting, measuring, positioning, closed-loop control, and cam control
Counting and measuring, cam control, closed-loop control, or motion control: You can integrate technological tasks in many different combinations and with various degrees of complexity without a system changeover into the world of SIMATIC – easily, conveniently, consistently. Parameter assignment and programming are implemented in the familiar STEP 7 environment.

Maximum availability – with integrated redundancy concepts
Siemens offers a comprehensive redundancy concept to ensure high availability for the entire plant: from the field level to the control level all the way up to the management level. For example, field-tested controllers ensure high availability through bumpless switching with automatic event synchronization.

www.siemens.com/simatic-system-features
To enable you to implement tasks of increasing complexity at less risk and with less outlay, you require hardware and software that is both innovative and guaranteed to remain available over the long term. For more than two decades Siemens has supplied reliable industrial PCs for this purpose, based on mainboards developed in-house and manufactured in our own factories in Germany – standardized, flexible and scalable. With the new 2010 Intel® Core™ processors (i3/i5/i7) the SIMATIC IPCs now offer you nearly twice the processing power for e.g. demanding measuring and controlling tasks. ECC-RAM, a solid state drive, RAID5 configuration and redundant power supply provide a high system availability. Windows 7 Ultimate is supplied as a turnkey preinstalled version and is already activated.

More ruggedness and system availability
SIMATIC IPCs always come with a high degree of ruggedness and industrial compatibility, for example, due to
• rugged enclosure designs,
• in-house developed mainboards,
• and high-quality components,
  e.g. industry-standard displays.
Additional add-on components for enhanced system availability prevent potential failures, and minimize downtimes and the consequential costs in your production.

More product diversity and selection options
The integrated industrial PC SIMATIC IPC platforms offer an extremely wide variety of products due to
• flexible and powerful Rack PCs in 19” design,
• compact, rugged Box PCs for universal application,
• rugged, high-performance Panel PCs with brilliant displays,
• and products and systems from our Customization Center accurately tailored to your requirements.
You can configure your SIMATIC IPC individually online, thus minimizing the purchasing time.

More application options
SIMATIC IPCs are ideally suited for use in many different applications, e.g. for
• open-loop and closed-loop control in mechanical engineering and on ships,
• visualization in the food industry,
• measuring and testing in the automotive industry,
• data processing and communication in the semiconductor and electronics industry,
• gateways and as network transition in stock-keeping and logistics applications.

This benefits machine and plant builders, system integrators and end customers alike:
SIMATIC IPCs offer you flexible possibilities for compact designs with greater performance and functionality, but not only that. Their high system availability ensures high productivity, and the service and support period of between 8 and 10 years reduces the total cost of ownership (TCO).
More networking options with PROFINET onboard

With PROFINET onboard, you can integrate SIMATIC IPCs even more easily in networks to support integrated real-time-capable communication from the corporate management level right down to the field level. Real-time, IT communication as well as TCP/IP are thus possible on a single line. This saves installation and integration costs.

More quality, safety and environmental protection

Our SIMATIC IPCs set standards in terms of quality:
- They are developed and manufactured in-house and provide reliable compliance with all technical specifications, as proven in comprehensive tests.
- Our totally integrated quality assurance process guarantees the best logistics performances, and high quality during field use.
- Environmental protection is ensured by our own guidelines for environmentally-sound product design throughout the complete product lifecycle.

More continuity and long-term availability

SIMATIC IPCs minimize your application’s adjustment expenditures and facilitate long-term planning of concepts. SIMATIC IPCs thus offer
- an availability period of 3 – 5 years with a minimum 6-month overlapping period with the new device generation,
- as well as a repair and spare parts availability period of 5 years.
This results in a total service and support period of 8 – 10 years following market launch.

More service and support

We provide efficient and fast support for SIMATIC IPCs:
- Global online support – e.g. FAQs and manuals
- Online service tool PED – device equipment information
- SIMATIC hotline – all day, every day
- 34 repair centers in 28 countries and subsidiaries in 190 countries
- PC-based Competence Centers – project support.
More ruggedness and system availability

More ruggedness and industrial suitability

Already the product design meets the high demands placed on industrial compatibility. SIMATIC IPCs stand out due to the following special characteristics:

- Mainboards developed in-house
- Rugged enclosure designs with high electromagnetic compatibility (EMC) and degrees of protection up to IP65/NEMA 4
- Integrated industrial power supplies (according to NAMUR) and redundant power supplies that can be swapped during normal operation
- High-quality components with high MTBF, which also facilitate 24-hour operation even in the extended temperature range
- High vibration/shock resistance thanks to special hard disk holders
- Lockable plug connectors and card retainers
- Internal USB interface, e.g. for a software dongle
- Installed and activated Microsoft operating systems for time savings during installation
- Service-friendly, modular device design for the fast replacement of defective components
- Restore CD/DVD for restoration of the delivery state

More system availability

The consequential costs of system failures and downtimes are essential aspects when assessing an automation solution’s total cost of ownership (TCO). Thanks to their product features and numerous optional products, SIMATIC IPCs sustainably ensure a high system availability and decisively contribute to the reduction of consequential costs – for maximum productivity and efficiency.

More details on page 32.

Total cost of ownership (TCO) for plants with high availability requirements

- Standstill costs through system failure
- Costs for maintenance/support
- Updates/changes
- Commissioning
- Implementation
- Acquisition
- Planning

Reduction of overall costs through SIMATIC IPCs with system availability components

Relatively low expenditures for maximum system availability

Measures for greater ruggedness and industrial compatibility, based on a SIMATIC Rack PC

- Rugged housing designs with high electromagnetic compatibility (EMC)
- Card retainers secure expansion cards under severe vibration / shock conditions
- Fan with speed monitoring with enhanced protection against the ingress of dust through overpressure ventilation
- Filter mat replaceable without tool
- Industrial power supply reliably bridges voltage dips of 20 ms (according to NAMUR) or redundant power supply replaceable during normal operation
- High vibration / shock resistance thanks to special hard disk holders
- Cable grips ensure permanent contact of the plug-in connections
- Internal USB interface to prevent unauthorized removal of a software dongle
More product diversity and selection options

More product diversity

SIMATIC IPCs are available in various designs and with different functionalities. These include:

- **Rack PCs** – flexible and powerful in 19” design
- **Box PCs** – compact and rugged for universal applicability
- **Panel PCs** – rugged and powerful with brilliant displays
- SIMATIC monitors and Thin Clients are available for distributed operator control and monitoring.
- As versions for special requirements we offer HMI units with all-round protection, units with stainless steel fronts and intrinsically safe devices for hazardous areas.

And if you need even more, our Customization Centers convert the tried-and-tested SIMATIC IPCs to individualized products and systems – tailored precisely to your specific needs. This provides you with more time for your own projects while improving your profitability and thus your competitive advantage.

More individual selection options

The integrated industrial PC SIMATIC IPC platforms offer a high degree of flexibility through individual selection options. For example, the following products are available on identical mainboard basis:

- IPC427x also as a compact HMI IPC477x with brilliant display
- IPC627x also as a compact Panel PC 677x with brilliant display
- IPC847x also as a compact IPC647x with only two height units and identical footprint.

You can order SIMATIC IPCs in various configurations. Our online configurator supports you with the selection of various:

- processors,
- memory configurations,
- drives,
- add-on cards and
- preinstalled, already activated operating systems:

  [www.siemens.com/ipc-configurator](http://www.siemens.com/ipc-configurator)

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**Advantages due to identical Mainboard basis**

- Identical system software and driver due to identical processors and chipsets
- Reduced evaluation costs when using different SIMATIC IPCs
- Reduced supply of spare parts (e.g. memory, hard disks)

**Long-term availability and defined further development**

- Mainboards from our own\(^1\) development and production facilities
- Long-term availability of 3-5 years
- 5 year of repair and spare parts service

This results in a total service and support period of 8-10 years.

\(^1\) The SIMATIC IPC547x is also developed and manufactured in Germany.
SIMATIC IPCs are employed in many applications and sectors. They are perfectly equipped and suitable for open- and closed-loop control, visualization, measuring and testing, data processing and communication tasks as well as for gateways and as network transition.

SIMATIC IPCs are playing an increasingly important role in the context of intelligent energy management.

The main applications of SIMATIC IPCs are manifold:
- Automotive industry (e.g. test bays, paint lines)
- Semiconductor and electronics industry (e.g. diffusion plants)
- Regenerative energy (solar, wind)
- Chemical and pharmaceutical industry (e.g. table presses, fermenters)
- Oil, gas and water (e.g. water treatment, water supply)
- Foodstuff industry (e.g. filling systems, fruit presses)
- Stock-keeping and logistics (e.g. high-bay warehouses, conveyor technology)
- Mechanical engineering (e.g. printing machines, textile machines, CD/DVD production)

Application examples of SIMATIC IPCs in the automotive industry

Body construction
The compact and rugged embedded HMI IPC477C with WinAC RTX software PLC and WinCC flexible is used for control and visualization directly on the machine.

Chassis installation: HMI station
In the chassis installation plant, the compact and powerful SIMATIC HMI IPC677C is used as an HMI station for system operation and monitoring.

Engine and transmission construction
Engine and transmission construction poses high requirements in terms of EMC, dirt and heat. For monitoring and control of the test bays, the rugged SIMATIC IPC847C is employed.

The maintenance-free and ultra-compact embedded Microbox PC IPC427C is used for screw data recording and quality control on site.
Application examples of SIMATIC IPCs in shipbuilding

Permanent vibrations, strong rolling on rough seas, and corrosive, salty climates – the electronics on ships is exposed to exceptionally harsh operating conditions. A performance specification that our SIMATIC IPC427C, HMI IPC477C, SIMATIC Flat Panel monitors and the intrinsically-safe SIMATIC Panel PCs and Thin Clients fulfill exceptionally well.

Marine approval will be available soon for SIMATIC IPC627C and HMI IPC677C.

They have the following certificates/marine approvals:
- GL (Germanische Lloyd)
- BV (Bureau Veritas)
- LRS (Lloyds Register of Shipping)
- ABS (American Bureau of Shipping)
- DNV (Det Norske Veritas)
- NKK (Nippon Kaiji Kyokai)

The Flat Panel monitors also have RMRS approval (Russian Maritime Register).

Thus the industrial PC can also be used for controlling ballast tank pumps, for example, to keep a ship level during loading and unloading.

Application examples of SIMATIC IPCs in the food and beverages industry

Control room (MIS level)
Large quantities of data have to be rapidly processed or visualized in the control room. The powerful SIMATIC IPC547C reliably handles visualization of the production line, display and recording of plant faults, recipe management, as well as the documentation of quality data.

Inspection
The SIMATIC IPC847C provides a high performance and, with up to 11 PCI/PCI-Express slots, high expandability for vision systems for fast inspection e.g. of bottles for faults, for positioning and printing of labels, or for level monitoring.

Plant monitoring and operation
- Wet area: HMI station
The SIMATIC HMI IPC677C with WinCC visualization software and stainless steel front is highly suitable for the wet area, e.g. for cleaning, filling, and for individual transportation of open bottles. Mounted on the swingarm, it is responsible for monitoring and operation of the machines, e.g. for visualization of faults or for maintenance work.

- Dry area: HMI station
The SIMATIC IPC627C reliably handles plant monitoring in the dry area as well as control of crate filling and transportation. A remote Flat Panel monitor connected up to 30 meters away permits plant monitoring on site.
More networking options with PROFINET onboard

For easy integration in PROFINET networks and consistently real-time-capable communication from the corporate management level down to the field level, the SIMATIC IPCs optionally offer PROFINET onboard. Realtime, IT communication as well as TCP/IP are thus possible on a single line.

The intelligent controller architecture with integrated 3-port switch facilitates the flexible and easy assembly of line or tree topologies. Integration of existing fieldbus systems, e.g. PROFIBUS, is supported. The integrated PROFINET interface of SIMATIC IPCs can be used for:

- Direct connection of distributed I/Os and drives, for example with WinAC RTX as controller
- Use as additional standard Windows interface via the integrated switch, e.g. for TCP/IP communication or visualization applications with WinCC flexible.

Compared to conventional solutions, PROFINET reduces costs for the installation and integration of system components by 30 to 35%.

Advantages at a glance

- The PROFINET onboard interface saves one slot, which can be used for other PC cards
- The intelligent controller architecture with integrated 3-port switch (ERTEC 400) improves the PC system performance by reducing the processor load
- Full support of the software PLC WinAC RTX and the failsafe variant WinAC RTX F
- Optimized integration of SIMATIC IPCs in PROFINET configuration (STEP 7 and NCM-PC)
- Efficient self-diagnostics via status LEDs for eased commissioning and diagnostics

Real-time communication

PROFINET offers scalable real-time communication RT and IRT for all requirements in automation. Real-Time (RT) is used for time-critical process data – i.e. for cyclical user data or event-controlled alarms. For this purpose, PROFINET uses an optimized realtime communication channel. Its performance exceeds that of conventional fieldbuses. For especially challenging applications, there is the hardware-supported real-time communication Isochronous Real-Time (IRT) – for example for motion control applications and high-performance applications in factory automation.

Integration in host networks via Gigabit Ethernet interface

SIMATIC IPCs can be easily embedded in PROFINET networks via the PROFINET interface with integrated 3-port switch.
Industrial PCs from Siemens offer maximum quality due to self-developed mainboards and innovative technologies for reliable continuous operation in an industrial environment. The units and even their mainboards are manufactured in Germany. They are tested at our in-house test center to ensure reliable compliance with all technical data and specifications.

Development quality
Our experienced development teams are pursuing a common goal: The fulfillment of all customer requirements on the basis of maximum quality standards, with high long-term availability and compatibility. For this purpose, for example, we implement two test runs with 40 prototypes each. These include, e.g.: • Stress test for CPU, graphics, memory, drives, etc. • Measurement and validation of all important signals During the design phase, the thermal simulation allows for the construction of devices with an optimized heat dissipation concept.

Production quality
We audit our suppliers, for example, to ensure their qualification and thus the production of industrial PCs with maximum quality and consistently good properties. Furthermore, we produce in air-conditioned halls with consistent temperature/air humidity and store components in nitrogen. Special test procedures are also used, e.g.: • 100% x-ray test of the equipped PCB • 100% testing of components and cables for functionality • 100% run-in test: system test of all components, 36-hour heat test at 40 °C in climatic exposure test cabinet (this corresponds to a 6-week long-term test to avoid early failures). • 100% final inspection of all manufactured devices Together with the type tests which accompany series production, our customers receive products with 100% functionality which comply with all technical specifications.

Logistics quality
With a production capacity of over 100,000 PCs, our main logistics objective is the reliable adherence to delivery promises. Our uniform quality assurance concept ensures that our customers receive the product in the quality it was manufactured, e.g. by checking the packaging and transport quality.

Field quality
Maximum reliability of our SIMATIC IPCs in the field also requires optimum support during daily use. Regular inspection of the products from our production lines show that we not only observe and guarantee the CE and UL approvals, but also greatly exceed them.

Environmental protection
Environmental protection throughout the complete product lifecycle is ensured by the Siemens standard SN 36350-1 for environmentally-sound product design.

Production
Hazardous material is consistently listed in our production, environmentally-friendly alternatives are considered and replaced by new production procedures. All components and auxiliary material comply with the EU RoHS directives.

Packaging and logistics
SIMATIC IPCs are packaged and transported in an environmentally-friendly and resource-friendly way, e.g. through: • Returnable or reusable transport packaging • Any packaging materials can be completely recycled • Fewer individual deliveries due to collective deliveries.

Operation
The long service life of SIMATIC IPCs reduces waste and the use of resources. Environmentally-friendly operation with low maintenance and energy costs are ensured by: • Energy-saving mobile processors • Fewer fans and hard disks • Wake-on-LAN functionality

Disposal
SIMATIC IPCs can be recycled and disposed of in an environmentally-friendly way, e.g. through: • Recycling marks on metal enclosures/plastic parts • Minimization or omitting composite material
More continuity and long-term availability

Experience has shown: In-house production and development have a direct influence on the quality and ensure reliable compliance with the high SIMATIC quality standards.

SIMATIC IPCs are equipped with selected, high-quality brand components with a high MTBF (mean time between failures). The environmentally compatible devices comply with the RoHS and WEEE directives.

Competence leads to security

Thanks to our in-house development, we are able to comprehensively cater to your wishes and realize customer-specific requirements. All our development departments are made up of experts for every PC component with close contact to our supplier partners.

Long-lasting concepts

With SIMATIC IPCs you can implement long-term concepts thanks to:
- Availability of 3 to 5 years (at least 1.5 years for IPC547C)
- 5-year repair and spare parts service (IPC547C: 3 years) after expiry of the active marketing period
This results in a total service and support period of 8 – 10 years following market launch.
Upon request, you can also be provided with systems permanently tailored to a specific application, so-called design freeze systems – complete and ready for operation.

Defined continuity

Already prior to the development of the mainboards, close coordination with the suppliers’ roadmaps is ensured.

Advantages at a glance

- We can control innovation steps more effectively and adjust them to the market requirements.
- Communication of the product roadmaps specifically and actively supports you as a user with the migration of your PC solutions.

Hardware and software compatibility

If practical, the mechanical dimensions of SIMATIC IPCs are compatible with the design of their predecessors. Together with the high compatibility of the interfaces, this provides you with the additional advantage of easy and fast integration.

You can use your existing user software on a new device without program changes over several device generations. You are still provided, e.g., with operating systems such as Windows XP and can also use modern software such as SIMATIC PC DiagMonitor with Windows 2000.

Within a device generation, SIMATIC IPCs offer a particularly high degree of image compatibility. This enables you to install the unchanged software image (operating system, drivers and application). This minimizes your adjustment expenditures.
More service and support

Whoever uses an industrial PC from Siemens has a system which operates reliably round-the-clock on 365 days of the year. To make sure this remains so, we have established an appropriate service and support concept for fast and efficient help – not only for fault cases.

Global online support
Whether important technical documentation, comprehensive FAQs, tools and downloads, or newsletters – we provide you with quick help and support around-the-clock via the Internet, together with comprehensive expertise covering all sectors and application areas of SIMATIC IPCs.

Service tool PED – Product Equipment Data
With the PED service tool, you can identify and manage device and component data of SIMATIC IPCs/PGs online and worldwide by means of standard Internet browsers.

Your advantages with PED
- Fast and exact determination of device data (e.g. delivery date, release version, hardware equipment, spare parts, etc.) at any time
- Support with device/system documentation (e.g. through printout of device information)

www.siemens.com/ped

Worldwide:
24-hour availability
The SIMATIC hotline is available 24 hours a day, 365 days a year. Our engineers offer ample experience in development, system commissioning and system tests, and incorporate the development and production departments in solving your problem. They can therefore assist you even with difficult cases.

Worldwide:
Always within reach
Siemens has 34 repair centers in 28 countries, and subsidiaries in 190 countries. As a user, you are thus provided with the maximum of competent support – from PC repairs in our repair centers down to on-site servicing.

Project support
You require support with the dimensioning and options of a PC-based automation project or even engineering support? Specifically for this purpose, Siemens has established PC-based Competence Centers in Italy, Germany and China with experts who closely cooperate with the development department and competently support you.
**SIMATIC Rack PC**

**Flexible, powerful industrial PCs in 19" design**

SIMATIC Rack PCs are flexible industrial PC systems in 19" design with high system availability for high-performance applications.

Suitable for horizontal and vertical application, they facilitate the realization of manifold tasks:

- Measuring, open- and closed-loop control of industrial processes
- Visualization of production processes
- Image processing, e.g. within the scope of quality inspections
- Data acquisition and management, e.g. for recipe management
- Intelligent energy management

<table>
<thead>
<tr>
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<th>IPC547C</th>
<th>NEW IPC647C</th>
<th>NEW IPC847C</th>
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<tbody>
<tr>
<td><strong>Available operating systems</strong> (preinstalled and activated)</td>
<td>Internal installation or in removable rack: HDD 250 GB, 500 GB, 2 x 500 GB, RAID1 2 x 500 GB; installation in removable rack: RAID5 3 x 500 GB</td>
<td>Internal installation or in removable rack: HDD 250 GB, 500 GB, 2 x 500 GB, RAID1 2 x 500 GB; SSD 32 GB</td>
<td>Internal installation or in removable rack: HDD 250 GB, 500 GB, 2 x 500 GB, RAID1 2 x 500 GB; SSD 32 GB</td>
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<tr>
<td><strong>Available memory media</strong></td>
<td>2 x Gigabit Ethernet</td>
<td>2 x Gigabit Ethernet, 1 x MPI/PROFIBUS (optional)</td>
<td>1 x PROFINET (3 ports, optional)</td>
</tr>
<tr>
<td><strong>Networking options</strong> (onboard)</td>
<td>4 x PCI, 1 x PCI-Express x16 Gen. 2.0, 1 x PCI-Express x8 (1 lane), 1 x PCIe x1</td>
<td>2 x PCI, 1 x PCI-Express x 16 or 1 x PCI, 1 x PCI-Express x4, 1 x PCI-Express x 16</td>
<td>7 x PCI, 1 x PCI-Express x16 or 7 x PCI, 1 x PCI-Express x16, 3 x PCI-Express x4</td>
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<tr>
<td><strong>Expandability with cards</strong></td>
<td>4 x PCI, 1 x PCI-Express x16 Gen. 2.0, 1 x PCI-Express x8 (1 lane), 1 x PCIe x1</td>
<td>2 x PCI, 1 x PCI-Express x16 or 1 x PCI, 1 x PCI-Express x4, 1 x PCI-Express x16</td>
<td>7 x PCI, 1 x PCI-Express x16 or 7 x PCI, 1 x PCI-Express x16, 3 x PCI-Express x4</td>
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<tr>
<td><strong>Long-term availability</strong></td>
<td><strong>Availability</strong></td>
<td>At least 1.5 years</td>
<td>3 to 5 years</td>
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<tr>
<td><strong>Repair and spare parts service</strong></td>
<td>3 years</td>
<td>5 years</td>
<td></td>
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<tr>
<td><strong>Industrial compatibility</strong></td>
<td><strong>Shock / vibration / dust protection</strong></td>
<td>1g / 0.2g /</td>
<td>5g / 0.5g /</td>
</tr>
<tr>
<td><strong>Ambient temperature in operation</strong></td>
<td>5 … 40 °C</td>
<td>5 … 50 °C</td>
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<td><strong>Options for increased system availability</strong></td>
<td><strong>Second hard disk</strong></td>
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<td><strong>RAID configurations (RAID1/RAIDS)</strong></td>
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<tr>
<td><strong>Diagnoses software: DiagMonitor</strong></td>
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<tr>
<td><strong>Redundant power supply (AC)</strong></td>
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<tr>
<td><strong>Backup software: Image Creator</strong></td>
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SIMATIC IPC547C

Maximum performance at an attractive price with Intel Core2 Quad processors

The SIMATIC IPC547C is a powerful industrial PC in 19" design (4U). It is ideally suited to industrial applications demanding maximum PC system performance such as required, for example, in industrial server applications, process visualization, or image processing.

Equipped with powerful and energy-saving Intel Core2 Quad/Duo processors with 64-bit technology, a memory size of up to 8 GB and up to 500 GB serial ATA hard disks, the IPC547C reliably provides high computing performance in 24-hour continuous use at an extremely attractive price. The 7 long expansion slots in PCI/PCI-Express technology allow for the use of powerful expansion cards such as PCIe x16 graphics cards for the connection of two monitors and PCIe x8 (1 lane) for installing a Framegrabber module.

The IPC547C is equipped with the following to increase system availability:

- Up to 3 mass storage units in RAID5 network for maximum data security and performance with optimum memory space utilization in a hot-swap removable rack
- Comprehensive diagnostics and monitoring options due to LEDs on the front for temperature and fan
- Redundant power supply
- High data transfer rates and redundancy thanks to two teaming-capable Gigabit Ethernet connections

Furthermore, the IPC547C is characterized by

- All-metal enclosure in sophisticated industrial design with high electromagnetic compatibility
- Increased dust protection and low noise due to fan-controlled pressurized cooling
- Maximum computing power without throttling at ambient temperatures from 5 to 40 °C
- 9 USB 2.0 interfaces, two of which on the front and one internal interface with mechanical interlock. A USB flash drive inserted into the internal interface can be operated in closed devices, e.g. as software dongle, and is thus protected against misuse.

With the optional tower kit, the IPC547C can be converted for use as an industrial workstation or server in control stations and engineering offices. The small enclosure depth permits space-saving installation in 19" control cabinets with depths from 500 mm.
**NEW SIMATIC IPC647C**

Maximum compactness and industrial functionality with the new 2010 Intel Core processors (i7, i5, i3)

The SIMATIC IPC647C is a rugged and extremely compact industrial PC in 19" design. It is particularly suitable for space-saving implementation of fast computing and visualization tasks, e.g. image and data processing. With only two height modules and its small mounting depth, it permits the optimum utilization of space in 19" standard control cabinets (from 500 mm).

Despite its high compactness, it can be flexibly scaled and expanded due to three long slots:
- 2 x PCI, 1 x PCIe x16 or
- 1x PCI, 1x PCIe x4, 1x PCIe x16

**SIMATIC IPC647C/847C – One platform, many advantages:**

- High performance and extremely fast system response:
  - New 2010 Intel Core processors (i7, i5, i3)
  - Powerful onboard HD graphics integrated into the CPU
  - DDR3 memory technology

- Extremely high system availability and data security thanks to
  - RAID controller onboard
  - Solid-state drive (SSD) with 32 GB
  - ECC RAM, work memory with error correction

- Optional PROFIBUS or PROFINET interface with three ports for cost-effective connection of distributed field devices or to couplings with SIMATIC S7

- High data transmission rates and redundancy thanks to two teaming-capable Gigabit Ethernet connections

- Dual monitoring via an optional PCI-Express x16 graphics card for high graphics performance

- DVI/VGA adapter for analog monitor (optional)

- 7 x Hi-Speed USB 2.0 ports, two of which on the front and one internal port, e.g. for a software dongle

- Energy-efficient industrial PCs:
  - Low power consumption thanks to the latest mobile technology
  - Wake-on-LAN functionality for timed start-up of the PCs from a central point, over the network, e.g. after a shutdown weekend.

**Special features of SIMATIC IPC647C/847C:**

- Front USB interface concept: One inserted USB flash drive can also be operated with the front door closed, e.g. as software dongle, and is thus protected against misuse in the same way as the drives and the ON/OFF or reset button accessible from the front.

- Front LED display for efficient self-diagnostics, e.g. for simple identification of a faulty hard disk in the RAID5 group by HDD1, HDD2 or HDD3 ALARM.
NEW SIMATIC IPC847C

Maximum expandability and industrial functionality with the new 2010 Intel Core processors (i7, i5, i3)

The SIMATIC IPC847C is a rugged and extremely expandable industrial PC in 19" design (4U). It offers high investment protection thanks to outstanding long-term availability and ensures reliable operation in particularly harsh industrial environments, e.g. with high dust, temperature and shock loads.

Due to its high computing power and PCI-Express technology, the IPC847C is the perfect platform for high-performance applications, for example in measuring systems, test bays, or industrial image processing applications.

The SIMATIC IPC847C is extremely flexible and expandable due to its 8 or optionally 11 free PCI/PCI-Express slots:
- 7 x PCI, 1 x PCIe x16 or 7 x PCI, 1 x PCIe x16 and 3 x PCIe x4

For maximum system availability and data security, the IPC847C can be optionally equipped with the following:
- 2 x 500 GB hard disks in a RAID1 group or 3 x 500 GB hard disks in a RAID5 group for optimum memory space utilization
- Hot swap frame for replacement of hard disks during operation
- The redundant power supply unit can be replaced during operation

- Rugged and with long-term availability, with identical performance features, the same footprint, and installation, interface and software compatibility.

- Sophisticated industrial design, very easy to service:
  - Front fan can be replaced without tools
  - Only one screw needs to be removed to quickly open the enclosure
  - Removable 19" supports for use as Desktop IPC

- Additional internal USB interface with protection against unauthorized removal, e.g. for a software dongle
SIMATIC Box PC
Compact and rugged industrial PCs for universal applicability

SIMATIC Box PCs are particularly rugged and reliable industrial PCs in compact design for universal installation in machines, control enclosures and control cabinets. They are characterized by high performance and low space requirements, ease of maintenance, as well as flexible mounting positions and assembly options.

From the ultra-compact and maintenance-free version for DIN rails, all the way to the IPC with high expansion capability and maximum performance, the compact Box PCs fulfill almost any requirements. Manifold tasks can be realized with the SIMATIC Box PCs:
- Measuring, open- and closed-loop control of process and machine data
- Industrial image processing with data acquisition and processing
- Decentralized visualization with SIMATIC Flat Panels

<table>
<thead>
<tr>
<th>IPC427C</th>
<th>NEW IPC627C</th>
<th>Box PC 827B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available memory media</td>
<td>HDD 80 GB; SSD2) 32 GB; CFC 256 MB / 2 / 4 / 8 GB (externally accessible), CFC 256 MB / 2 / 4 / 8 GB (internal)</td>
<td>HDD 250, 500 GB; 2 x 320 GB; SSD 32 GB; RAID1, 2 x 320 GB; 1 x CFC up to 8 GB, second CFC up to 8 GB optional</td>
</tr>
<tr>
<td>Networking options (onboard)</td>
<td>2 x Gigabit Ethernet 1) 1 x MPI/PROFIBUS (optional) 1 x PROFINET (3 ports, optional)</td>
<td>2 x Gigabit Ethernet 1 x MPI/PROFIBUS (optional) 1 x PROFINET (3 ports, optional)</td>
</tr>
<tr>
<td>Expandability with cards</td>
<td>Up to 3 x PCI-104 (with expansion frame)</td>
<td>2 x PCI or 1 x PCI and 1 x PCIe x16</td>
</tr>
<tr>
<td>Integrated retentive memory</td>
<td>Battery-buffered SRAM 2 MB, 256 KB of which usable for WinAC (Box PC 827B: 128 KB for WinAC)</td>
<td></td>
</tr>
</tbody>
</table>

Long-term availability

- Availability: 3 to 5 years
- Repair and spare parts service: 5 years
- Industrial compatibility
- Shock / vibration: 15g / 1g
- Ambient temperature during operation: 0 ... 55 °C

Options for increased system availability

- Second hard disk: –
- Mirror disk technology (RAID1): –
- Diagnostics software: DiagMonitor: ■
- Backup software: Image Creator: ■

1) With PROFINET onboard 1 x Ethernet
2) SSD (Solid-State Drive), 2.5"
SIMATIC IPC427C

The powerful embedded industrial PC – ultra-compact and maintenance-free – with Intel Core2 Duo processors

The SIMATIC Microbox PC IPC427C is the powerful embedded industrial PC for rail mounting, wall mounting, or portrait assembly. It is ideally suited for the space-saving implementation of fast I&C, HMI and communication tasks, e.g. direct at the machine or on ships.

For high performance in maintenance-free continuous operation 24 hours a day at ambient temperatures of up to 55 °C it is equipped with:
• Intel processors up to Core2 Duo
• DDR3 memory technology up to 4 GB
• Integrated Intel GMAX4500 Graphics Media Accelerator
• High-grade 32 GB Solid State Drive (SSD) and CF cards

Universally applicable with three PCI-104 expansion slots and a multitude of interfaces:
• Two Gigabit Ethernet connections (teaming-capable) for flexible communication with the control and field levels.
• Four USB 2.0 interfaces and an optional PROFIBUS connection or a PROFINET interface with three ports for high adjustability and flexibility for measuring and open-loop and closed-loop control tasks.

Its components such as PCI-104 modules (optional), battery, RAM or CompactFlash card can easily be replaced when installed. It offers increased system availability through:
• Integrated monitoring functions for bulk storage, battery, temperature and program execution
• Front-side LED solution for efficient self-diagnostics, e.g. for the status display of critical operating states
• Integrated power supply with electrical isolation and mains failure bridging.

Process data can be reliably saved in the event of a power failure thanks to a battery-buffered SRAM.

The IPC427C is also available as compact HMI IPC477C with brilliant displays.

More details on page 25.

The SIMATIC IPC427C can be easily and flexibly expanded with a central I/O.

More details on page 40.

With the front portrait assembly kit, the IPC427C is attached to the mounting wall with its smallest surface and thus saves valuable mounting space (at ambient temperatures of up to 50 °C). When using the kit, the user interfaces are arranged on the front for improved user-friendliness.

Further mounting options:
• Portrait assembly with interfaces arranged on the bottom/top
• Wall mounting with brackets

The SIMATIC IPC427C can be easily snapped onto a DIN rail, e.g. in combination with an ET 200S.
**NEW SIMATIC IPC627C**

Maximum performance in a minimum of space with the new 2010 Intel Core processors

The SIMATIC IPC627C stands out due to its high compactness and performance for demanding measuring, open-loop and closed-loop control tasks at ambient temperatures of up to 55 °C.

Despite its high compactness, it can be flexibly scaled and expanded due to two slots:
- 2 x PCI (1 x short, 1 x long) or
- 1 x PCI and 1 x PCIe x16

It is also available as a compact HMI IPC677C with brilliant displays for operator control and monitoring applications.

➤ More details on page 27.

**SIMATIC IPC627C – Advantages:**

- Maximum performance and extremely fast system response:
  - New 2010 Intel Core processors (i7, i3)
  - Powerful onboard HD graphics integrated into the CPU
  - DDR3 memory technology
- Extremely high system availability and data security thanks to:
  - RAID controller onboard
  - Solid-state drive (SSD) with 32 GB
  - ECC RAM, work memory with error correction
- Optional PROFIBUS or PROFINET interface with three ports for cost-effective connection of distributed field devices or to couplings with SIMATIC S7
- High data transmission rates and redundancy thanks to two teaming-capable Gigabit Ethernet connections
- Dual monitoring via an optional PCI-Express x16 graphics card for high graphics performance
- DVI/VGA adapter for analog monitor (optional)
- 4 x Hi-Speed USB 2.0 ports
- Energy-efficient Industrial PC:
  - Low power consumption thanks to the latest mobile technology
  - Wake-on-LAN functionality for timed start-up of the IPCs from a central point, over the network, e.g. after a shutdown weekend.

**SIMATIC IPC627C: Connections and Expansions**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>AC power supply 120/230 V, 4 x Hi-Speed USB 2.0 interfaces</td>
</tr>
<tr>
<td>Expansion slots</td>
<td>2 x PCI (1 x short, 1 x long), optional 1 x PCI and 1 x PCIe x16</td>
</tr>
<tr>
<td>On/Off switch</td>
<td>On/Off button</td>
</tr>
<tr>
<td>Optical drive</td>
<td>Optical drive DVD +/-R/RW</td>
</tr>
<tr>
<td>Power supply fan</td>
<td>Power supply fan</td>
</tr>
<tr>
<td>COM1: Serial interface 1</td>
<td>1 x internal LVDS for connecting an LCD monitor</td>
</tr>
<tr>
<td>1 x DVI-I (VGA via adapter)</td>
<td>1 x DVI-I (VGA via adapter)</td>
</tr>
<tr>
<td>Installation slot</td>
<td>Installation slot for CompactFlash Card (accessible from outside)</td>
</tr>
<tr>
<td>1 x PROFINET</td>
<td>1 x PROFINET (3 ports, optional)</td>
</tr>
<tr>
<td>2 x Gigabit Ethernet</td>
<td>2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s</td>
</tr>
<tr>
<td>4 x USB 2.0 interfaces</td>
<td>4 x USB 2.0 interfaces</td>
</tr>
<tr>
<td>On/Off button</td>
<td>On/Off button</td>
</tr>
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<td>AC power supply</td>
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<td>2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s</td>
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<tr>
<td>On/Off button</td>
<td>On/Off button</td>
</tr>
<tr>
<td>AC power supply</td>
<td>AC power supply 120/230 V, 4 x Hi-Speed USB 2.0 interfaces</td>
</tr>
<tr>
<td>Optical drive</td>
<td>Optical drive DVD +/-R/RW</td>
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<tr>
<td>Power supply fan</td>
<td>Power supply fan</td>
</tr>
<tr>
<td>Expansion slots</td>
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</tr>
<tr>
<td>On/Off switch</td>
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<tr>
<td>Optical drive</td>
<td>Optical drive DVD +/-R/RW</td>
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<tr>
<td>Power supply fan</td>
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<td>2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s</td>
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<tr>
<td>On/Off button</td>
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</tr>
<tr>
<td>AC power supply</td>
<td>AC power supply 120/230 V, 4 x Hi-Speed USB 2.0 interfaces</td>
</tr>
<tr>
<td>Optical drive</td>
<td>Optical drive DVD +/-R/RW</td>
</tr>
<tr>
<td>Power supply fan</td>
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</tr>
<tr>
<td>Expansion slots</td>
<td>2 x PCI (1 x short, 1 x long), optional 1 x PCI and 1 x PCIe x16</td>
</tr>
<tr>
<td>On/Off switch</td>
<td>On/Off button</td>
</tr>
<tr>
<td>Optical drive</td>
<td>Optical drive DVD +/-R/RW</td>
</tr>
<tr>
<td>Power supply fan</td>
<td>Power supply fan</td>
</tr>
</tbody>
</table>
SIMATIC Box PC 827B

Maximum performance and high flexibility with Intel Core2 Duo processors

The SIMATIC Box PC 827B is a rugged and flexibly expandable control cabinet PC for machine-level applications in 24-hour continuous operation at ambient temperatures of up to 55 °C.

Flexible scaling and expansion thanks to five long slots:
- 4 x PCI, 1 x PCIe x4 or
- 2 x PCI and 3 x PCIe x4

To achieve high performance and flexibility, the Box PC 827B is equipped with:
- Powerful, energy-saving Intel Core2 Duo processors
- Main memory expansion of up to 4 GB
- Two teaming-capable Gigabit Ethernet connections for high data transfer rates and redundancy
- Two CompactFlash drive slots, easily accessible from the outside, for the assembly of low-maintenance, diskless systems.

Features of the SIMATIC IPC627C and Box PC 827B

- Rugged and available over the long term with the same footprint, compatible with regard to mounting and interfaces.
- Fast diagnostics of the operating state and display of the BIOS start procedure by means of two freely programmable 7-segment displays with two additional status LEDs, e.g. for acknowledgements during data transmission.
- Fast replacement of the CMOS battery even when installed due to externally accessible battery compartment.
- Flexible installation in control cabinets with a high level of user friendliness due to front/portrait assembly kit and mounting brackets. All function elements can therefore be accessed from the front.

More details on page 40.

SIMATIC Box PC 827B: Connections and Expansions

All-metal housing, built-in unit, also suitable for portrait assembly

Expansion slots:
- 4 x PCI (long), 1 x PCIe x4
- optional 2 x PCI and 3 x PCIe x4

Externally accessible battery compartment for fast replacement of the CMOS battery

Optical drive
- DVD +/- R/RW

AC power supply

On/Off switch

2nd installation slot for CompactFlash Card

Power supply fan

1 x internal LVDS for connecting an LCD monitor

1 x DVI-I (VGA via Adapter)

Installation slot for CompactFlash Card (accessible from outside)

COM1: Serial interface 1

4 x USB 2.0 interfaces

2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s

1 x PROFINET (3 ports, optional)

Freely programmable
- 2 x 7-segment display, 2 x LEDs

All function elements and interfaces are accessible from one side.
**SIMATIC Panel PC**

Rugged and powerful industrial PCs with brilliant displays

SIMATIC Panel PCs demonstrate their great strengths in machine-level operation and monitoring applications and master further tasks as powerful industrial PCs: Open- and closed-loop control, data processing and motion control are just a few examples.

Thanks to their rugged design, SIMATIC Panel PCs are ideally suited for production processes in harsh industrial environments. Operation via the touch screen or membrane keyboard meets all requirements in this application area. The rugged fronts (IP65) are equipped with luminous displays in different sizes. USB interfaces on the front facilitate start-up and service.

Panel PCs of different performance classes feature the same installation dimensions, which enables you to respond flexibly to changing requirements anytime.

> For versions for hazardous areas, see Page 31.

<table>
<thead>
<tr>
<th>HMI IPC477C 1)</th>
<th>HMI IPC577C</th>
<th>NEW HMI IPC677C</th>
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<td>Compact, rugged and maintenance-free in embedded technology with Intel Core 2 Duo processors</td>
<td>Industrial functionality at an attractive price with Intel Core 2 Duo processors</td>
<td>Maximum performance and flexibility with the new 2010 Intel Core processors (i7, i3)</td>
</tr>
<tr>
<td>Available operating systems (preinstalled and activated)</td>
<td>Windows Embedded Standard 2009</td>
<td>Windows XP Professional (MUI), XP embedded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Windows XP Embedded Standard 2009 / XP Professional / Windows 7 Ultimate</td>
</tr>
<tr>
<td>Available memory media</td>
<td>SSD 32 GB, 1 x FlashDrive up to 8 GB, second FlashDrive up to 8 GB can be replaced from the outside</td>
<td>HDD 80 GB, SSD 32 GB, 1 x FlashDrive up to 8 GB can be replaced from the outside</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HDD 250, 500 GB; 2 x 320 GB; SSD 32 GB; RAID1, 2 x 320 GB; 1 x CFC up to 8 GB, second CFC up to 8 GB optional</td>
</tr>
<tr>
<td>Networking options (onboard)</td>
<td>2 x Gigabit Ethernet 2)</td>
<td>1 x PCI</td>
</tr>
<tr>
<td></td>
<td>1 x MPI/PROFIBUS (optional)</td>
<td>2 x PCI or 1 x PCI and 1 x PCI-Express x16</td>
</tr>
<tr>
<td></td>
<td>1 x PROFINET (3 ports, optional)</td>
<td></td>
</tr>
<tr>
<td>Expandability with cards</td>
<td>–</td>
<td>1 x PCI</td>
</tr>
<tr>
<td>Integrated retentive memory</td>
<td>2 MB (128 KB can be used for WinAC)</td>
<td>2 MB (128 KB can be used for WinAC) (only 24 V DC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 MB (256 KB can be used for WinAC) (only 24 V DC)</td>
</tr>
<tr>
<td>Mounting depth</td>
<td>From 62 mm</td>
<td>From 84 mm (incl. DVD-R/W)</td>
</tr>
<tr>
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<td></td>
<td>From 104 mm</td>
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<td>Long-term availability</td>
<td></td>
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<tr>
<td>Availability</td>
<td>3 to 5 years</td>
<td>3 to 5 years</td>
</tr>
<tr>
<td>Repair and spare parts service</td>
<td>5 years</td>
<td>5 years</td>
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<tr>
<td>Industrial compatibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock / vibration</td>
<td>5g / 1g</td>
<td>5g / 0.5 g 3)</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>0 ... 50 °C</td>
<td>5 ... 45 °C (or 5 ... 50 °C in installation space if max. 40 °C at the front) 3)</td>
</tr>
<tr>
<td>Options for increased system availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirror disk technology (RAID1)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Diagnostics SW DiagMonitor</td>
<td>■</td>
<td>■</td>
</tr>
<tr>
<td>Backup software Image Creator</td>
<td>■</td>
<td>■</td>
</tr>
</tbody>
</table>

1) Device also available with all-round IP65 protection (see page 30).

2) With PROFINET onboard 1 x Gigabit Ethernet.

3) The same conditions apply for the 17” and 19” versions as for the HMI IPC577C.

4) with CF or SSD: 5g / 1g

5) with CF or SSD: 5 ... 50 °C
SIMATIC HMI IPC477C

Compact, rugged and maintenance-free in embedded technology with Intel Core 2 Duo processors

The SIMATIC HMI IPC477C in powerful Core2 Duo technology with high-performance graphics perfectly meets the requirements placed upon a rugged, maintenance-free and safe system: With its small installation depth and display sizes of 12", 15" or 19", the operating panel of a machine can be accurately adjusted to the requirements of the respective solution.

The Windows Embedded Standard 2009 operating system, installed on a CF card or SSD, offers the openness of a PC while at the same time ensuring the ruggedness of an embedded system. The omission of a hard disk and fan means that the HMI IPC477C is easy to service and maintenance-free. A retentive data memory ensures that process data are retained in the event of a power failure. A second CF card slot is accessible from the outside and, for example, facilitates individual data archiving. Availability is increased by enhanced protection against viruses and unauthorized program modifications.

Connections and expansion options:
- 2 Gigabit Ethernet interfaces (teaming-capable) or
- 1 PROFIBUS interface onboard and 2 Gigabit Ethernet interfaces or
- 1 PROFINET interface (3 x ports, CP 1616 compatible) onboard and 1 Gigabit Ethernet interface
- Second CompactFlash card slot, externally accessible. A new option is to purchase a turnkey device with WinCC client or server functionality.

A version without display is available as IPC427C.

The HMI IPC477C is also available with complete IP65 protection for mounting direct on a support bracket.

Turnkey systems with pre-installed software are available as embedded bundles for PC-based Automation.

Connections and Expansions of the PROFINET version

- On/Off switch
- 4 x USB 2.0 interfaces
- Serial interface COM1
- 1 x USB 2.0 interface at front
- 24 V DC power supply
- DVI-I (VGA via adapter)
- 1 x Gigabit Ethernet connection for 10/100/1000 Mbit/s
- 1 x PROFINET (3 ports)
- Installation depth from 62 mm
SIMATIC HMI IPC577C

Industrial functionality at an attractive price with Intel Core 2 Duo processors

With its attractive price and tried-and-tested functionality, the SIMATIC HMI IPC577C is the ideal entry product into the class of industrial panel PCs.

With powerful processors up to 1.86 GHz Intel Core2 Duo, the HMI IPC577C provides the required computing power for various industrial applications. The compact device is supplied with a main memory of 1 GB as a standard. This can be upgraded to 4 GB.

The versatile equipment options of the HMI IPC577C include
• an 80 GB hard disk, optionally an SSD min. 32 GB
• a CompactFlash card drive up to 8 GB, can be replaced from the outside
• 2 Gigabit Ethernet interfaces for fast transfer even of large data volumes
• a DVD burner and
• 5 high-speed USB ports (one on the front) for the connection of external devices such as drives for data backup.

Thanks to their compact design with a PCI slot, the devices can be expanded and still be used in confined space conditions in the control cabinet or control panel.

15” touch version

Due to the high level of electromagnetic shielding, the HMI IPC577C is also suitable for use at machine level. Devices with 12”, 15” and 19” displays are available for touch screen operation. Variants with keys are available with 12” and 15” displays.

SIMATIC HMI IPC577C: Connections and Expansions of the PROFIBUS version

- 1 x PROFIBUS
- COM1: Serial interface 1
- 2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s
- 4 x USB 2.0 interfaces
- 1 x DVI-I (VGA via adapter)
- 1 x PCI expansion slot
- Optical drive: DVD +/- R/RW
- AC power supply 120/230 V (also available in 24 V DC)
- On/Off switch
- 1 x USB 2.0 interface at front
NEW SIMATIC HMI IPC677C

Maximum performance and flexibility with the new 2010 Intel Core processors

The SIMATIC HMI IPC677C is a powerful open PC platform for harsh industrial applications. Equipped with powerful Intel Core processors, it is suitable for demanding visualization tasks and for the processing of large data volumes.

Despite its high compactness, it can be flexibly scaled and expanded due to two slots:
- 2 x PCI (1 x short, 1 x long) or
- 1 x PCI and 1 x PCIe x16

The SIMATIC HMI IPC677C is equipped with brilliant displays in sizes 12”, 15” or 19” with an attractive front design. Operation is realized via the touch screen or the keys.

To support the use of SIMATIC WinCC as a server, it is also possible to configure the IPC677C with Windows Server 2008.

A version without display is available as Box PC SIMATIC IPC627C.

An INOX version with a 15” touch display is available for implementation in the food and beverages industry.

SIMATIC IPC627C – Advantages:
- High performance and extremely fast system response:
  - New 2010 Intel Core processors (i7, i3) and main memory expansion up to 4 GB
  - Powerful onboard HD graphics integrated into the CPU
  - DDR3 memory technology
- Extremely high system availability and data security thanks to
  - RAID controller onboard
  - Solid-state drive (SSD) with 32 GB
  - ECC RAM, work memory with error correction
  - Retentive data memory for storing the process data after a voltage drop
- Optional PROFIBUS or PROFINET interface with three ports for cost-effective connection of distributed field devices or to couplings with SIMATIC S7
- High data transmission rates and redundancy thanks to two teaming-capable Gigabit Ethernet connections
- Dual monitoring via an optional PCI-Express x16 graphics card for high graphics performance
- DVI/VGA adapter for analog monitor (optional)
- 5 x high-speed USB 2.0 ports, one of which is arranged on the front
- Energy-efficient industrial PC:
  - Low power consumption thanks to the latest mobile technology
  - Wake-on-LAN functionality for timed start-up of the IPC from a central point, over the network, e.g. after a shutdown weekend.

SIMATIC HMI IPC677C: Connections and Expansions of the PROFINET version

Freely accessible battery compartment for fast replacement of the CMOS battery

Extension slots:
- 2 x PCI (1 x short, 1 x long)
- Optionally 1 x PCI and 1 x PCIe x16

AC power supply:
- 120/230 V (also available in 24 V DC)

On/Off switch

Optical drive:
- DVD +/- R/RW

Power supply fan

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>1 x DVI-I (VGA via adapter)</td>
<td></td>
</tr>
<tr>
<td>On/Off button</td>
<td></td>
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<tr>
<td>Installation slot for CompactFlash Card (accessible from outside)</td>
<td></td>
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<td>COM1: Serial interface 1</td>
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</tr>
<tr>
<td>4 x USB 2.0 interfaces</td>
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<tr>
<td>1 x PROFINET (3 ports) (optionally PROFIBUS)</td>
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<tr>
<td>1 x USB 2.0 interface at front</td>
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Distributed operation and monitoring
with industrial monitors

SIMATIC offers two different design concepts for PC-based visualization and control solutions requiring a spatially divided setup of the operator panel and the computer: Industry-compatible monitors and SIMATIC Thin Clients for client/server architectures.

SIMATIC Flat Panel monitors
Brilliant LCD monitors for industrial applications

The SIMATIC Flat Panel monitors are characterized by their fail-safe concept, long service life and industrial-standard design. They are fully suitable for industrial use even with vibration loads up to 1g and shock loads up to 5g. Dust and humidity are no problem thanks to degree of protection IP65/NEMA4. Devices with marine approvals and ATEX 22 (Ex) are available.

The Flat Panel monitors are equipped with a mineral glass pane which offers a high mechanical protection against pressures and scratches. Flat Panel monitors are available in display sizes 12”, 15”, 17” and 19”, with touch operation, or as a display-only unit. They use the same mounting cutouts as the corresponding Panel PCs. Improved working quality results from even brightness, high picture resolution, outstanding anti-reflective properties and reading angles greater than 170° horizontal and vertical. The Flat Panel monitors are therefore even superior to conventional CRT monitors and LCD monitors. They facilitate fatigue-free working and reduce the probability of mistakes.

The Flat Panel monitors are both equipped with the modern DVI-D digital interface and the analog VGA interface and can therefore be connected to current as well as future PCs. Flat-panel monitors can also be operated detached by up to 30 m from the computer unit.

SCD monitor in widescreen format

A new option is the low-cost SCD monitor in widescreen format. The SCD1900 features a 19” widescreen display with touch functionality and a resolution of 1440 x 900 pixels. With its front with IP65 degree of protection, it can be used direct on the machine.
with SIMATIC Thin Clients

Monitors cannot fulfill all the demands placed on distributed operating units. If long distances are required between the operating unit and the computer unit, SIMATIC Thin Clients are recommended. These economical and flexible units can be used to access different PCs over PROFINET/Ethernet. Operation of the SIMATIC Thin Clients is realized via the touch screen or an external keyboard or mouse connected to the USB interface.

Economical operator stations

Client-server architectures have become a permanent feature of the classical IT environment. The advantage lies in the fact that the "expensive" computing performance is only required on the servers. The low-cost clients are provided for their applications in the network. The Thin Client is only used to input and output data. The actual data processing is performed by the server. The software itself only executes on the server, so the maintenance and update costs are reduced.

High degree of ruggedness

As remote operator terminal without hard disk and fan, the device can be operated on machines with particularly high mechanical ruggedness requirements (e.g. vibration resistance). You can find information on a version with all-round IP65 protection on page 30.

Integrated communication

Branched structures can be created that cover large areas and several operator stations can be connected to one PC through direct connection of the Thin Clients to PROFINET/Ethernet. Thin Clients usually communicate over standard protocols such as Remote Desktop (RDP), Virtual Network Computing (VNC) or Citrix. RDP is currently included in every Microsoft operating system and only needs to be activated. A Thin Client can access the desktop of the server via RDP and carry out remote operation. The main difference between VNC and RDP is that VNC displays a "cloned" desktop if two or more operator panels are connected. Via RDP – and with a non-server operating system – only one operator panel can be active at a time and operate the server. In this case, all other stations display the log-in window. Citrix is frequently used with highly complex client/server architectures. The principle: The applications which can be accessed by the clients are defined on the server. The clients can then connect themselves automatically to the applications released on the server.

Access to the visualization software SIMATIC WinCC flexible is possible in the industrial environment with a SIMATIC Thin Client through protocols such as Sm@rtAccess. The server can be, for example, a SIMATIC Multi Panel or a PC. Two or more Thin Clients can be operated depending on the server’s performance. The benefit: If the HMI project is changed, the modification need only be carried out once centrally on the server. Low-cost and flexible structures can also be produced for SCADA applications using Thin Clients. For example, the Thin Client can communicate as an HMI client with the WinCC SCADA software via RDP. A completely new feature is that a SINUMERIK CNC for a machine tool can now also be directly operated from a SIMATIC Thin Client.

Flat Panel monitor or Thin Client?

Numerous operating concepts can be implemented with both configurations. There are, however, a few points that favor one solution or the other:

- Demanding graphics requirements, e.g. the display of 3D data or videos clearly requires Flat Panel monitors.
- If the IPC is to be commissioned in the plant, or if there is a need to change the BIOS settings, a Flat Panel monitor must be used.
- If the graphics performance is unimportant, but long distances to the PC must be covered economically, Thin Clients are more suitable.

The monitors and the Thin Clients have the same front design as the SIMATIC IPCs of the corresponding format.
Device versions for special requirements

All-round protection and stainless-steel fronts

The HMI devices with all-round protection supplement the portfolio of the tried and tested built-in units with especially rugged operator panels in an attractive design. The devices are dimensioned for support bracket or stand assembly and offer an overall IP65 protection.

Panel PCs with stainless steel front are designed for use in the food and beverages industry. They are characterized by easy cleaning and disinfection, high resistance, splitter protection of the display and high degree of protection.

Fully enclosed HMI devices

The series is technically based on available built-in devices:
- SIMATIC HMI IPC477C PRO 15” and 19”
- SIMATIC Flat Panel Monitor PRO 15” and 19”
- SIMATIC Thin Client PRO 15”

The devices can be mounted on various support bracket and stand systems via a flexible mechanical system. Thus they can be optimally used on machines without requiring a control cabinet. This facilitates ergonomic operation at various positions in systems or production lines. The devices are connected to support bracket systems from different manufacturers by means of adapters, optionally on the top or bottom of the device. Both options are provided as standard.

Due to their low weight, the HMI devices with all-round protection can be mounted easily and quickly. The backplane can be removed easily – e.g. for subsequent installation of cables or replacing memory cards – and thus ensures a high degree of service friendliness even when the device is already mounted on the machine.

The HMI devices with all-round protection offer modular expansion capability. The corresponding expansion units can be attached on left or right side of the operator panels.

This way, the system can be easily expanded with plant-specific mechanical buttons or other add-on units (e.g. Emergency Stop) and thus adjusted to many different requirements. The degree of protection IP65 is retained for the entire system even after installation.

Advantages at a glance
- Operator panels with all-round IP65 protection for mounting on support brackets or stands
- Removable backplane hood for optimum service friendliness
- Maximum compactness and low weight for easy mounting
- Easy adjustability to changing requirements thanks to modular expansions

SIMATIC HMI IPC677C 15” Touch INOX

The HMI IPC677C is also available as an ergonomic operator station to a high degree of protection (up to IP66K all-round) built into a stainless-steel control box.

SIMATIC Flat Panel Monitor PRO 19” and HMI IPC477C PRO 15”

HMI stainless-steel operator station with HMI IPC677C
Intrinsically safe SIMATIC Panel PCs and Thin Clients

Rugged SIMATIC Panel PCs and Thin Clients are now available in an intrinsically-safe version for hazardous areas in Ex Zones 1/21 and 2/22. They can be used with flammable gases, vapors and dust/air mixtures, in the manufacturing of petrol, medicines and cement and in the processing of flour and grain, as well as in shipbuilding.

SIMATIC HMI Panel PC Ex and SIMATIC HMI Thin Client Ex can be implemented without special measures, such as costly enclosures or additional certification procedures, directly in hazardous areas of Zones 1/21 and 2/22. The devices are highly resistant to vibration and shock and are certified for use in shipbuilding. The chassis devices feature a high degree of protection of IP66 at the front and IP65 at the rear for direct implementation outdoors at ambient temperatures from minus 20 °C to plus 50 °C. For use down to minus 30 °C, an enclosure with heating is available as an option.

SIMATIC HMI Panel PC Ex

The rugged Panel PC is equipped with a 1.6 GHz Intel Atom processor and offers high-performance computing with heat losses of only 2.5 W. The device operates without a fan, rotating bulk memory and battery and is therefore completely maintenance-free.

Manifold configuring options
- 15” or 19” displays with touch screen functionality and eight function keys. The 15” device is available as an option with an especially brilliant display for use in daylight.
- CompactFlash Cards with 4 or 16 GB, 60 or 120 GB hard disks as well as USB FlashDrive with 8 GB
- Ethernet networking is available either electrically over copper cables at 10/100 Mbit/s (Ex e) or optically over fiber-optic cables at 100 Mbit/s (Ex op is)
- Windows XP Professional or XP embedded operating system
- Digital KVM box for monitor operation of the SIMATIC HMI Thin Client Ex

The following accessories are available:
- USB drive, intrinsically safe, 8GB
- USB drive, intrinsically safe, 8GB, with recovery function
- USB drive, 8GB, with recovery function
- Ethernet switch with FO
  - 4 x 100 Base Tx
  - 1 x 100 Base Fx (MTRJ) Ex op is

SIMATIC HMI Thin Client Ex

The SIMATIC HMI Thin Client Ex can be connected as a Thin Client or monitor over Ethernet at an unlimited distance from the associated computer unit.

In Thin Client mode, the remote protocols RDP or RealVNC are used for communication with the server.

In monitor mode, the PC is connected over a digital KVM box for keyboard, video and mouse signals which can communicate over Ethernet either directly or via a switch with the remote HMI station in the hazardous area. Multi-monitor solutions with up to eight monitors are possible, as well as up to four remote stations operating as monitors on a server.

Advantages at a glance
- Can be used directly in hazardous areas of Zones 1/21 and 2/22 without special measures
- Highly rugged and totally maintenance-free for use directly at the machine, outdoors and in shipbuilding
- Brilliant 15”/19” displays with touch screen functionality and function keys, as well as a 15” display for use in daylight
- Flexible configuration and easy integration in the existing infrastructure
- Economical repair instead of total replacement, thanks to modular, service-friendly design

SIMATIC HMI Panel PC Ex and Thin Client Ex with brilliant 15”/19” displays
The rugged design and high industrial suitability make SIMATIC industrial PCs highly available. For applications with individual system availability requirements, we offer a matched range of optional expansion components. This enables you to detect potential failures early and to effectively minimize actual downtimes.

Prevention of potential failures – to exclude damage right from the start

Options for the prevention of potential failures include:
- Uninterruptible power supplies (UPS)
- Redundant power supply (IPC547C / IPC847C)
- Flash disk and SSD as safe bulk memory
- RAID1/RAID5 configuration

SIMATIC PC DiagMonitor – intelligent and comprehensive diagnostics, local or remote

To allow early detection of potential failures in the field, the SIMATIC PC DiagMonitor software tool provides intelligent and comprehensive diagnostics and signaling functions which allow you to carry out preventive maintenance in due time.

Minimization of downtimes – to get your system up and running again quickly

Once a system has come to a standstill due to a fault, it is of the essence to minimize such downtimes and the respective costs. SIMATIC IPCs therefore offer expansion options to quickly restore your system’s operability.

These include:
- Software for preventative data backup and efficient partition management, SIMATIC IPC Image & Partition Creator
- Second hard disk
- BIOS data management software: SIMATIC PC BIOS Manager
Prevention of potential failures
To exclude damage right from the start

SIMATIC IPC expansion options offer protection against unnecessary consequential costs, e.g. caused by data loss, and ensure the continuously high availability of your plant.

Uninterruptible power supplies (UPS)
The rugged SIMATIC IPC power supply units back up voltage dips for up to 20 ms (acc. to NAMUR). SITOP DC UPS 24 V is available for longer power outages, as well as customized built-in UPSes.
The benefit: The system can reliably save important data and shut down in a controlled manner.

SITOP UPS500 is based on high-capacitance capacitors. The maintenance-free DC UPS is available as compact rail-mounted device (can be combined with IPC427C) and with IP65 degree of protection for distributed setup, e.g. for mounting on a support arm of a SIMATIC Panel PC.
Advantages:
• Long service life and reliable operation at temperatures of up to 60 °C
• Control cabinet does not have to be ventilated
• Safe coast down and correct restarting
• Software tool supports further processing and responses from the IPC.

Further information:
www.siemens.com/sitop-ups500

Flash disk and SSD as safe bulk memory
System availability can be further increased with a CompactFlash drive (flash disk) or SSD instead of a hard disk. These rugged bulk memories are approved for higher vibration, shock and temperature values and offer an availability which is significantly higher than that of a hard disk. They provide safe protection for your operating system and application. The SIMATIC PC CompactFlash cards with up to 8 GB capacity and solid-state drive with 32 GB are system-tested with SIMATIC IPCs.
The SIMATIC PC CompactFlash cards with diagnostics capability can be diagnosed and monitored using the SIMATIC PC DiagMonitor diagnostics software. By setting of the diagnostics bit, users can be informed of the need for preventive maintenance in due time.

RAID1/RAID5 configuration
SIMATIC IPCs with RAID1/RAID5 configuration ensure increased data security: Data continues to be available, even if a hard disk fails. Loss of data is thus avoided, the system continues to be operational, and the hard disk can be replaced during operation. The onboard RAID controller saves one slot, which can be used for other cards.

RAID1 configuration (mirror disk system)
All data is saved in parallel on two hard disks by means of automatic mirroring. The advantages are:
• Very secure and user-friendly due to automatic mirroring
• After replacing a defective hard disk, the mirror disk system can be restored in just a few steps.

RAID5 configuration (block striping with distributed parity)
All data and parity information are saved on at least three hard disks. The advantages are:
• High security thanks to redundant data storage
• Good utilization of the available storage space

RAID5: High degree of data security and memory utilization through separate drives and »block striping with distributed parity«.
SIMATIC PC DiagMonitor

Intelligent and comprehensive diagnostics – local and remote

The SIMATIC PC DiagMonitor detects possible hardware and software faults. It monitors, signals and visualizes the operating states of SIMATIC IPCs both locally and remotely. You are thus able to prevent downtimes and reduce the respective costs by taking preventive measures at an early stage.

DiagMonitor alerts the user, automatically executes programs and logs all events. This way, faults are rapidly detected and potential system failures efficiently prevented. The diagnostics messages are automatically forwarded to the user via LAN, e-mail or text message, or via OPC for direct alarm infeed in the software application (e.g. WinCC flexible, WinCC, WinAC and other OPC-capable software).

SIMATIC PC DiagMonitor monitors, signals and visualizes the operating states of SIMATIC IPCs both locally and remotely.
The DiagMonitor Web server lets you view and manage the data of the stations monitored by the SIMATIC PC DiagMonitor independent of the location, PC architecture and operating system via an Internet browser over an http or https link. Access rights to the monitoring data can be individually assigned and managed for the users.

The time synchronization function integrated in DiagMonitor facilitates operation of the industrial PCs without CMOS battery. This additionally reduces the maintenance costs.

Web server display: Online monitoring of all fan speeds (CPU and enclosure fans) as well as signaling and visualization of exceedance/shortfall or fan failure via Internet browser.

Example: Operating hours meter

Using the operating hours meter, you can define the maintenance intervals not just for your SIMATIC IPC, but also for further devices in your plant. You are thus informed on the dates for preventive maintenance measures in due time, e.g. replacement of the CMOS battery of the industrial PC or filter change of a pump.

Example: Text message and alerting functions

The SIMATIC PC DiagMonitor automatically signals, among others, overshoot/undershoot of the permissible operating temperature. For example, an alarm via text message informs the servicing personnel of a violation of the permissible processor temperature caused by contaminated filter mats.

Advantages at a glance

Productivity increase – through the prevention of potential failures

- Central diagnosis of networked SIMATIC IPCs over Ethernet or Webserver (http/https)
- Diagnostics and signaling functions for PC temperature, fan, hard disks (SMART), RAID, CompactFlash, SSD, system status (watchdog)
- Operating hours meter for preventive maintenance
- Recording and evaluation of operating data;
- Integrated log function, comprehensive text messages and online help in German and English
- Own information per Web business card on:
  - Device data e.g. product designation, BIOS version, mainboard number
  - System status

Cost reductions – through minimization of downtimes

- Fast information via e-mail, text message and in the application via OPC and SNMP
- Individually configurable actions upon occurrence of a fault, e.g.:
  - Execution of programs, e.g. calling of the Storage Manager in the case of RAID faults
  - Restart for controlled shutting-down and restarting of the computer
Minimization of downtimes

To get your system up and running again quickly

Once a system has come to a standstill due to a fault, it is essential to minimize such downtimes and the respective costs. SIMATIC IPCs therefore offer expansion options to quickly restore your system’s operability.

SIMATIC IPC Image & Partition Creator

SIMATIC IPC Image & Partition Creator supports you with organizing data and partitions on SIMATIC IPCs. You can then back up data easily and restore it as well as manage partitions efficiently.

• Back-up of the hard disk image during normal operation on an additional storage medium (2nd hard disk of CF card, integrated burner, external USB drive) or restoration from this drive to a hard disk.
• Comfortable duplication of complete software fillings (cloning) of devices with the same equipment and application purpose allows for the fast replacement of complete devices in service cases.
• Reliable erasing of confidential data before disposing of data carriers.
• Expansion and reduction of existing system and data partitions without loss of data as well as creation of new and deletion of existing partitions
• The software can be operated without the need for specialist knowledge. Wizards provide support for all functions. The function “1ClickImage” can be used to create an image or restore it with just a double-click after the initial configuration.
• Flexible in the application thanks to:
  - Direct starting from the CD or USB FlashDrive
  - Booting of the program from the CD or bootable USB FlashDrive
  - Installation and execution via an icon.

Second hard disk

To increase the system availability you can use a second hard disk in a non-RAID system:
• As a storage location for data and image back-up and for the easy and fast restoring of data using SIMATIC IPC Image & Partition Creator.
• As a back-up disk, so that the system can be used again immediately, in the case of a defective software installation or hard disk defect, by booting from the back-up disk set up by the SIMATIC IPC Image & Partition Creator.

SIMATIC IPC BIOS Manager – for easy and safe BIOS data management

With the SIMATIC IPC BIOS Manager software tool, BIOS data of SIMATIC IPCs can be processed under Windows PE. The functionality includes the reading of and storing of BIOS CMOS data in a file and copying back of the saved BIOS setup data to the BIOS.

• Easy and safe duplication of configured CMOS data on further SIMATIC IPCs of the same design
• Easy archiving of PC system data for quality management requirements.
• Easy implementation of a BIOS update / BIOS restoration
• Storing of an inventory number for the device

*1ClickImage* for easy start of the back-up process via desktop icon

Easy, secure BIOS data management under Windows PE
SIMATIC PC-based Automation

Options for operation and monitoring

A range of hardware and software options is available for PC-based automation. Optimum interaction of these options and SIMATIC IPCs is ensured as a result of joint development and comprehensive system tests.

SIMATIC WinCC flexible – innovative HMI software

The engineering software offers maximum configuring efficiency. WinCC flexible Runtime contains a signaling and logging system and can be expanded by options if required.

Innovative HMI and automation concepts

- Tags and screens can be transferred using TCP/IP communication
- Service and diagnostics as well as downloading of projects over the internet
- Traceability and easy validation according to EU 178/2002 and 21 CFR Part 11.

Maximum configuration efficiency

The WinCC flexible engineering software is based on the latest software technologies. It is available in five languages (including ASIA version with four Asian languages) and, in addition to a simple user interface, provides the configuration engineer with:

- Libraries with preconfigured objects and reusable faceplates
- Intelligent tools for the easy creation of projects, graphical configuration of an image hierarchy and motion paths as well as configuration of bulk data
- Support of multilingual configurations with automatic text translation and text export/import function

SIMATIC WinCC – scalable process visualization with plant intelligence

SIMATIC WinCC is a price- and performance-graded process visualization system for all sectors even up to the pharmaceutical industry where appropriate options comply with the requirements of 21 CFR Part 11. WinCC offers SCADA functionality – from single-user down to distributed multi-user systems with redundant servers and cross-location solutions with Web clients. In particular, WinCC is characterized by absolute openness. Via open interfaces, system houses can develop individual applications and install system expansions on WinCC. With the integrated process database, WinCC forms the information hub for company-wide, vertical integration.

WinCC offers you the following advantages:

- Universally applicable
  - Solutions for all sectors
  - Meets requirements according to 21 CFR Part 11
  - Multilingual for worldwide use
  - Can be integrated in all automation and IT solutions
- Can be configured easily and efficiently
- Continuously scalable – also via the Web
- Open standards for easy integration
- Integrated MS SQL server for data archiving as information hub
- Increased production transparency through plant intelligence
- Expandable using options and add-ons

SIMATIC WinCC can be operated with server functionality on Windows Server 2008. This option is available for SIMATIC Rack PCs and the SIMATIC HMI IPC677C.
SIMATIC PC-based Automation

Options for open-loop control

PC-based Control with SIMATIC WinAC RTX

WinAC RTX enables control on the PC. The WinAC RTX software controller is used when high performance, high data volumes and at the same time hard real time are required. The optimized runtime system supports the processing of extensive and demanding PC applications in parallel with the control task. It executes on the operating systems Windows XP Professional, Windows Embedded Standard 2009 or Windows 7 and uses a real-time core to ensure real time and deterministic behavior.

WinAC RTX uses the latest innovations for SIMATIC Controllers in the communication via PROFINET. Particular features are the isochronous mode via PROFINET and IRT and the webserver functionality. Isochronous mode is used for extremely fast and accurate automation solutions. Input signals are acquired, processed and output at fixed intervals. The webserver automatically generates web pages, that can also be used for remote diagnostics, and permits access to a plant from any PC with the relevant authorization.

On the basis of OPC WinAC RTX offers an open data interface to the standard software of the Office world. For visualization and data processing the process data therefore can be accessed easily and symbolically. The integrated SIMATIC NET OPC server facilitates manufacturer-independent communication with OPC client applications.

Use of SIMATIC know-how

WinAC RTX is programmed with the usual SIMATIC programming tools – with STEP 7 or, if required, also with the field-proven engineering tools, such as the IEC 61131-3-compliant languages S7-SCL or S7-GRAPH. WinAC RTX is code-compatible with SIMATIC S7, i.e. program sections created for SIMATIC S7-300 and S7-400 can continue to be used in WinAC RTX and vice versa.

Fail-safe version

With WinAC RTX F, a TÜV-certified (German Technical Inspectorate), fail-safe software controller for safety-oriented applications is available. The S7 Distributed Safety software, a STEP7 option, is required for programming the fail-safe program. The PROFIsafe profile permits fail-safe communication via PROFIBUS DP and PROFINET IO.

Openness and know-how protection

WinAC RTX is open to integration of technological applications, such as barcode readers, image processing, measured value acquisition and numerical controls. C / C++ / C# programs can also be integrated into the WinAC RTX control program. Extremely flexible solutions can therefore be generated with access to all the hardware and software components of the PC.

C / C++ / C# is frequently used to program complex technology functions. These often contain valuable know-how. C / C++ / C# encapsulates these programs. The openness of WinAC RTX can therefore also be used to protect the know-how in customized functions.
Combinations of hardware and software at a preferential price:
Software packages and turnkey embedded bundles

If you decide to purchase a SIMATIC software product with your SIMATIC IPC you will save money.

You have the choice between turnkey Embedded Bundles with preinstalled and preconfigured software, and software packages for which you install the software yourself. Embedded bundles are available for selected SIMATIC IPCs. Software packages are available for all SIMATIC IPCs.

SIMATIC Embedded Bundles

Some SIMATIC IPCs with the Windows Embedded Standard 2009 operating system are offered with preinstalled and preconfigured SIMATIC software at especially favorable prices. The devices are ready to run. Restore CD/DVDs are supplied and can be used to restore the delivery status at any time. SIMATIC Embedded Bundles are available complete with the following hardware:
• SIMATIC IPC427C
• SIMATIC HMI IPC477C
• SIMATIC S7-mEC Embedded Controller

The SIMATIC S7-mEC Embedded Controller is a rail-mounted PC in SIMATIC S7-300 design that can be expanded using SIMATIC I/O modules.

The following software products are available:
For operation and monitoring
• SIMATIC WinCC flexible, including the option packages WinCC flexible/Archive and WinCC flexible/Recipes for implementation at the machine
• SIMATIC WinCC (for IPC477C only), the SCADA system for process visualization
For open-loop and closed-loop control
• SIMATIC WinAC RTX, the software controller for the PC
• SIMATIC WinAC RTX F, the new fail-safe software controller
For integrated SIMATIC automation solutions
• Combinations of SIMATIC WinCC flexible and WinAC RTX/RTX F

Software packages

Even if you want to configure your SIMATIC IPC with SIMATIC software yourself, you can still save money: Simply order the hardware and software together. Software packages can be combined with all available SIMATIC IPCs. When any SIMATIC IPC is ordered together with SIMATIC software, a price reduction will be available. The following software products can be selected for the software packages:

For operation and monitoring
• SIMATIC WinCC flexible, including the option packages WinCC flexible/Archive and WinCC flexible/Recipes for implementation at the machine
• SIMATIC WinCC, the SCADA system for process visualization

For open-loop and closed-loop control
• SIMATIC WinAC RTX, the software controller for the PC
• SIMATIC WinAC RTX F, the new fail-safe software controller

For further details, please ask your local SIMATIC contact:
www.siemens.com/automation/partner
Original accessories for SIMATIC IPCs

More than standard – perfectly suited for industrial applications

SIMATIC original accessories ensure the reliability of your automation solution. It was system-tested with SIMATIC IPCs and SIMATIC programming devices and fulfills the high quality requirements with regard to electromagnetic compatibility and efficient application in industrial environments.

SIMATIC IPC USB FlashDrive

With the 2 GB SIMATIC IPC USB FlashDrive (USB 2.0), we offer a reliable memory medium for mobile data transport in a rugged metal enclosure. Thanks to effortless handling through plug & play, the USB FlashDrive is flexibly and immediately applicable – also as boot medium or in low-maintenance applications which have to do without floppy or optical drives.

SIMATIC IPC CompactFlash

Compared to hard disk drives, the application of the SIMATIC IPC CompactFlash (256 MB to 8 GB) ensures safe data storage particularly with higher temperatures and vibration and shock loads. The long-term availability of the SIMATIC IPC CompactFlash makes you more independent from the market. The CF cards with diagnostics capability can be monitored by the SIMATIC IPC Diag-Monitor.

Central PC I/O

For especially high-speed and real-time-capable I&C tasks, the SIMATIC Microbox PC can be easily and flexibly expanded with centralized I/O. Via PCI-104 expansion slots, sensors/counters as well as digital and analog I/O modules are integrated in a very compact manner with the help of expansion racks. In maximum configuration, this allows the integration of up to 120 analog I/O, 320 digital I/O and 12 sensor/counter interfaces.

SIMATIC IPC keyboards/mouse-touch pen

Whether 19" slide-in, full-stroke or IP65 membrane keyboard: SIMATIC IPC keyboards are the ideal input devices. The optical wheel mouse can be connected to the USB or PS/2 interface. Our rugged, ergonomically designed touch pen ensures optimum user friendliness. It is mounted in a special holder next to the Panel PC (cannot be detached).

Printers

Whether printing of labels, large fonts and barcodes or the processing of continuous paper and single sheets – the industrial-standard matrix needle printers convince with their high printing speed and low noise level.

The printing volume reaches up to 26000 pages/month with up to 6 multiple uses (1 original and 5 copies).

Front/portrait installation kit

With the front/portrait assembly kits, the SIMATIC Box PCs are attached to the mounting wall with their smallest surface to save valuable mounting space. This way, the interfaces are accessible on the front of the mounted Box PC for maximum user-friendliness. The existing mounting options (portrait assembly with interfaces on the bottom/top and wall mounting with brackets) are thus supplemented by a further practical option.
Customized products

The SIMATIC IPC Customization Centers convert the proven SIMATIC IPCs into individual products and systems – exactly tailored to your specific requirements.

By benefiting from our long-standing and comprehensive customization know-how, you gain more time to concentrate on your core competences. You profit from the high quality, long-term availability, logistics, service and support of the proven SIMATIC IPCs.

The portfolio comprises:
• Customized hardware and software adjustments
• Customized service, support and logistics solutions

Customized hardware and software adjustments

Customized design with visual modification of SIMATIC IPCs for adjustment to your individual machine and system design, e.g. by modification of the company logo or enclosure color.

Customized product modification refers to the modification of the hardware and software functionality. For this purpose, you can select the SIMATIC IPC standard components, the customized components and any additionally required software function expansions from a modular system.

• e.g. additional modules, interfaces, drives or memory media, as well as various operating systems and drivers.

• Various function cards (standard cards) have already been evaluated for you, e.g. serial interface card, LAN card or graphics card. The system-tested expansions save commissioning time.

For more information, refer to insert "Technical data"

• Turnkey products, e.g. HMI operator panels, comprise the complete wiring, all connections, enclosure solutions and suitable automation devices, including the required software. These solutions only have to be installed and connected to the power supply and data networks. All product modifications are specified, quoted, developed and supplied individually for the respective automation solution.

Customized service, support and logistics solutions

Customized service and support offers you pre-sales and after-sales support concepts, such as:
• individual repair agreements on site,
• certifications and approvals in in-house type test laboratory

Our customized logistic solutions comprise, for example:
• individually specified availability agreements for unchanged hardware and software versions of the products (design freeze).
• individual forms of delivery such as just-in-time or kanban.

Detailed information is available at:
www.siemens.com/customized-automation
www.siemens.com/customized-pc
Online configuration and ordering made easy!

With the SIMATIC IPC online configurator, you can easily and individually assemble your industrial PC online in accordance with your requirements.

Configuration faults are excluded thanks to the automatic plausibility check. The connection to the Siemens Mall ensures the comfortable transfer of your data to the ordering process. The status indication provides information on the processing state of your order.

SIMATIC IPCs are available with pre-installed and already activated Microsoft operating systems, e.g.

- Windows Server 2003 / 2008
- Windows XP Professional
- Windows XP Embedded / Windows Embedded Standard 2009
- Windows Vista Ultimate
- Windows 7 Ultimate

The otherwise required product activation via internet or telephone (if no internet access is available) is not necessary. The industrial PCs are ready to operate immediately and thus your commissioning overhead is minimized and you save time and costs. Even if service is necessary after reinstallation from the restore DVD or recovery DVD, Windows is activated immediately.

Furthermore we ensure that you can continue to obtain your turnkey SIMATIC IPC even if the operating system is no longer commercially available, for example Windows XP.

Advantages at a glance

- Complete and up-to-date SIMATIC IPC product overview
- Easy selection and configuration – configuration faults are excluded
- All options at a glance
- Easy order placement via the Mall

Take advantage of these benefits and configure your SIMATIC IPC:
www.siemens.com/ipc-configurator

© Siemens AG 2010
Enter the world of SIMATIC

This brochure has given you an overview of the extensive SIMATIC portfolio for the manufacturing industry and has explained the benefits for you as a machine builder or plant operator. You will find further information about the individual system families on the Internet.

<table>
<thead>
<tr>
<th>SIMATIC PCS 7</th>
<th>SIMATIC Controller</th>
<th>SIMATIC ET 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>The powerful, scalable process control system for all sectors</td>
<td>High-performance controllers building on various different hardware platforms</td>
<td>The distributed, modular I/O system for all requirements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIMATIC Software</th>
<th>SIMATIC Technology</th>
<th>SIMATIC HMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial software for maximum efficiency in every phase of an automation project</td>
<td>The comprehensive product range for implementing technological tasks</td>
<td>The complete range for operator control and monitoring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIMATIC PC-based Automation</th>
<th>SIMATIC IT</th>
<th>SIMATIC NET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive product range in hardware and software for PC-based automation</td>
<td>The basis for customized, integrated MES solutions</td>
<td>The comprehensive range of products and systems for industrial communication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIMATIC Safety Integrated</th>
<th>SIMATIC Sensors</th>
<th>SIPLUS extreme</th>
</tr>
</thead>
<tbody>
<tr>
<td>The contiguous system for safety technology that is totally integrated in the standard automation</td>
<td>Sensors for a wide range of different requirements in the manufacturing industry</td>
<td>Products for industrial applications under operating conditions ranging from difficult to severe</td>
</tr>
</tbody>
</table>

SIMATIC is a key component of Totally Integrated Automation, the comprehensive, integrated range of products and systems for automation:

www.siemens.com/tia

SIMATIC – the leading automation system for industry:

www.siemens.com/simatic

Discover the extent of SIMATIC integration based on its system characteristics:

www.siemens.com/simatic-system-properties
Further information

More information on SIMATIC IPCs:
www.siemens.com/simatic-ipc

The optimum configuration for your application:
www.siemens.com/ipc-configurator

Online Service Tool PED – for fast information on the equipment of your SIMATIC IPC and the management of your field inventory:
www.siemens.com/ped

After Sales Information System for SIMATIC IPC:
www.siemens.com/asis

Information material for download:
www.siemens.com/simatic/printmaterial

Electronic ordering via the Internet with the Industry Mall:
www.siemens.com/industrymall

Your personal contact partner is listed at:
www.siemens.com/automation/partner

For further details, see SIMATIC Guide manuals:
www.siemens.com/simatic-docu
# SIMATIC Rack PC – Flexible, powerful industrial PCs in 19" design

<table>
<thead>
<tr>
<th>SIMATIC IPC547C</th>
<th>SIMATIC IPC647C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>19&quot; rack, 4U</td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td>Prepared for telescopic rails, for horizontal and vertical installation, 19&quot; mounting bracket can be removed from the outside; tower kit (optional) for conversion to tower PC</td>
</tr>
<tr>
<td><strong>General features</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>Intel Core 2 Quad Q9400 (2.66 GHz, 1333 MHz FSB, 6 MB L2 cache, EM64T, VT) Intel Core 2 Duo E8400 (3.0 GHz, 1333 MHz FSB, 6 MB L2 cache, EM64T, VT) Intel Pentium Dual Core E5300 (2.6 GHz, 800 MHz FSB, 2 MB L2 cache)</td>
</tr>
<tr>
<td><strong>Main memory</strong></td>
<td>From 1 GB DDR2 800 SDRAM (dual-channel support); 4 x DIMM; upgradeable to 16 GB</td>
</tr>
<tr>
<td><strong>Free expansion slots</strong></td>
<td>4 x PCI, 1 x PCIe x1, 1 x PCIe x8 (1 lane), 1 x PCIe x16 (all long)</td>
</tr>
<tr>
<td><strong>Onboard graphics</strong></td>
<td>Intel GMA4500 graphics controller integrated in chipset; dynamic video memory up to 256 MB; up to 2048 x 1536 pixels / 16 bit / 75 Hz; graphics card: NVIDIA Quadro NVS 290 (optional) (dual-head: 2 x VGA or 2x DVI-D), PCIe x16; 256 MB; max. analog resolution (VGA): 2048x1536 pixels / 75 Hz max. digital resolution (DVI): 1920x1200 pixels / 60 Hz</td>
</tr>
<tr>
<td><strong>Power supply / short-term voltage interruption</strong></td>
<td>AC: 100-240 V, 50-60 Hz / max. 16 ms AC, redundant: 100-240 V, 50-60 Hz / max. 16 ms (optional)</td>
</tr>
<tr>
<td><strong>Operating system</strong></td>
<td>■ Preinstalled and activated supplied on restore CD/DVD (optionally without operating system)</td>
</tr>
<tr>
<td></td>
<td>■ Others</td>
</tr>
<tr>
<td><strong>Drives</strong></td>
<td>Hard disks (3.5&quot; serial ATA with NCQ technology) / SSD</td>
</tr>
<tr>
<td></td>
<td>Internal installation or in removable rack: 250 or 500 GB; 2 x 500 GB; RAID1 2 x 500 GB, RAID5 3 x 500 GB (in removable frame) (RAID controller onboard) 2)</td>
</tr>
<tr>
<td></td>
<td>Floppy drive 1.44 MB</td>
</tr>
<tr>
<td></td>
<td>Slots 6 (internal: 2 x 3.5&quot;; front: 3 x 5.25&quot;; 1 x 3.5&quot;) or 6 (internal: 2 x 3.5&quot;; front: 3 x low-profile removable frames, 1 x 3.5&quot;)</td>
</tr>
<tr>
<td><strong>Interfaces</strong></td>
<td>PROFIBUS/MPI – 1 x 12 Mbit/s (isolated, compatible with CP 5611) optional</td>
</tr>
<tr>
<td></td>
<td>Ethernet 2 x 10/100/1000 Mbit/s (RJ45), teaming-capable 7)</td>
</tr>
<tr>
<td>SIMATIC IPC847C</td>
<td>SIMATIC IPC427C</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>19” rack, 4U</strong></td>
<td>Embedded industrial PC</td>
</tr>
<tr>
<td><strong>Prepared for telescopic rails,</strong> for horizontal and vertical installation, 19” mounting bracket can be removed from the outside; tower kit (optional) for conversion to tower PC</td>
<td><strong>Onto DIN rail,</strong> alternatively wall-mounted using supplied mounting bracket, portrait assembly using front portrait assembly kit (optional) for mounting with the smallest surface in the control cabinet</td>
</tr>
<tr>
<td><strong>Intel Core2 Duo SU9300</strong> (2 x 1.2 GHz, 800 MHz FSB, 3 MB L2 cache)</td>
<td><strong>Intel Core2 Duo SU9300</strong> (2 x 1.2 GHz, 800 MHz FSB, 3 MB L2 cache)</td>
</tr>
<tr>
<td><strong>Intel Core2 Solo ULV SU3300</strong> (1 x 1.2 GHz, 800 MHz FSB, 3 MB L2 cache, ultra low voltage CPU)</td>
<td><strong>Intel Celeron M ULV 722</strong> (1.2 GHz, 800 MHz FSB, 1 MB L2 cache, ultra-low voltage CPU)</td>
</tr>
<tr>
<td>From 1 GB DDR3 1066 SDRAM (dual-channel support); 2 x DIMM; upgradeable to 8 GB, ECC optional</td>
<td><strong>512 MB DDR3 SDRAM; 1 GB, 2 GB or 4 GB optional;</strong> retentive memory: Static RAM 2 MB</td>
</tr>
<tr>
<td>7 x PCI, 1 x PCIe x16 (all long) or 7 x PCI, 1 x PCIe x16, 3 x PCIe x4 (all long)</td>
<td>Up to 3 x PCI-104 (with expansion frame)</td>
</tr>
<tr>
<td><strong>Intel GMAX4500 graphics controller integrated in chipset; dynamic video memory up to 512 MB; CRT: 1920 x 1200</strong> DVI: 1920 x 1200</td>
<td>**AC, redundant: 100-240 V, 50-60 Hz / max. 20 ms according to NAMUR (optional)</td>
</tr>
<tr>
<td><strong>Microsoft Windows XP Pro</strong> ¹</td>
<td><strong>Microsoft Windows Embedded Standard 2009</strong> (pre-installed on SSD 32 GB, CompactFlash ≥ 2 GB or HDD) or Windows XP Pro (preinstalled on SSD 32 GB or HDD)</td>
</tr>
<tr>
<td><strong>Microsoft Windows Server 2008 incl. 5 clients</strong> ¹</td>
<td><strong>Microsoft Windows 7 Ultimate</strong> ¹</td>
</tr>
<tr>
<td><strong>Microsoft Windows 7 Ultimate</strong> ¹</td>
<td>Can be ordered separately: RMO53 real-time operating system available soon; project-specific: Linux ⁶, others upon request</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td><strong>Configuration</strong></td>
</tr>
<tr>
<td>Installation internal (also in shock- and vibration-damped drive holder) or in removable frame: 250 or 500 GB; 2 x 500 GB; SSD 2.25&quot; 32 GB; RAID 1, 2 x 500 GB, RAID 5 3 x 500 GB (in removable frame) (RAID contr. onboard) ²</td>
<td>None; ≥ 80 GB, 2.5&quot;; solid-state drive (32 GB, SLC, optional)</td>
</tr>
<tr>
<td><strong>Slot for CFC 256 MB / 2 / 4 / 8 GB (externally accessible), CFC internal 256 MB / 2 / 4 / 8 GB (optional)</strong></td>
<td><strong>Slot for CFC 256 MB / 2 / 4 / 8 GB (externally accessible), CFC internal 256 MB / 2 / 4 / 8 GB (optional)</strong></td>
</tr>
<tr>
<td><strong>DVD-ROM or DVD ± R/RW</strong></td>
<td><strong>Connection via USB interface</strong></td>
</tr>
<tr>
<td><strong>Connection via USB interface</strong></td>
<td><strong>Connection via USB interface</strong></td>
</tr>
<tr>
<td><strong>6 (internal: 2 x 3.5&quot;, front: 3 x 5.25&quot;, 1 x 3.5&quot;)</strong></td>
<td>—</td>
</tr>
<tr>
<td><strong>1 x 10/100 Mbit/s (with integrated 3-port switch, compatible with CP 1616) optional</strong></td>
<td>—</td>
</tr>
</tbody>
</table>
**SIMATIC IPC627C**

- Box PC, built-in unit
- Wall-mounted using supplied mounting bracket, portrait assembly using front/portrait assembly kit (optional) for mounting with the smallest surface in the control cabinet

**SIMATIC Box PC 827B**

- Design
- Installation

### General features

<table>
<thead>
<tr>
<th>Processor</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel Core i7-610E (2C/4T, 2.53 GHz, 4 MB L2 cache, turbo boost, VT-d, EM64T) Intel Core i3-330E (2C/4T, 2.13 GHz, 3 MB L2 cache, EM64T) Intel Celeron P 4502 (2C/2T, 1.86 GHz, 2 MB L2 cache)</td>
<td>Intel Core2 Duo T7400 (2.16 GHz, 667 MHz FSB, 4 MB L2 cache, EM64T) Intel Core2 Duo T5500 (1.66 GHz, 667 MHz FSB, 2 MB L2 cache, EM64T) Intel Celeron M 440 (1.86 GHz, 533 MHz FSB, 1 MB L2 cache)</td>
</tr>
<tr>
<td>Intel Core i5-2410M (2C/4T, 2.3 GHz, 3 MB L2 cache)</td>
<td>Intel Core i3-2130 (2C/4T, 3.4 GHz, 3 MB L2 cache)</td>
</tr>
<tr>
<td>Intel Core i7-620M (4C/8T, 2.66 GHz, 6 MB L3 cache)</td>
<td>Intel Core i7-2640M (4C/8T, 2.8 GHz, 6 MB L3 cache)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main memory</th>
<th>Main memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 1 GB DDR3 1066 SDRAM; DIMM; expandable to 8 GB; ECC optional; retentive memory: static RAM 2 MB opt.</td>
<td>From 256 MB DDR2 667 SDRAM; SODIMM; upgradeable to 4 GB; retentive memory: Static RAM 2 MB</td>
</tr>
<tr>
<td>1 x PCI (265 mm) and 1 x PCI (175 mm) or 1 x PCI (265 mm) and 1 x PCIe x16 (175 mm)</td>
<td>4 x PCI (265 mm) and 1 x PCIe x4 (175 mm) or 2 x PCI (265 mm) and 3 x PCIe x4 (175 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Onboard graphics</th>
<th>Onboard graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel HD graphics controller integrated in processor; Dynamic video memory up to 256 MB; DVI: 2048 x 1536 / 16 bit / 75 Hz</td>
<td>Intel GMA950 graphics controller integrated in chipset; Dynamic video memory up to 128 MB VGA: 1600 x 1200 / 32 bit / 85 Hz DVI-I: 1600 x 1200 / 32 bit / 60 Hz LCD: 1280 x 1024 / 18 bit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Operating system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows XP Embedded Standard 2009 (preinstalled on CompactFlash 8 GB), XP Pro Windows 7 Ultimate</td>
<td>Microsoft Windows XP Embedded (preinstalled on CompactFlash 2 GB), Windows 2000/ XP Pro Microsoft Vista Ultimate</td>
</tr>
<tr>
<td>■ Preinstalled and activated supplied on restore CD/DVD (optionally without operating system)</td>
<td>■ Others</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drives</th>
<th>Drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without; 250 GB; 500 GB; 2 x 320 GB, 2.5&quot;; SSD 32 GB RAID1, 2 x 320 GB 2.5&quot; (RAID controller onboard)</td>
<td>Without; 160 GB; 250 GB; 2 x 80 GB, 2.5&quot;; RAID1, 2 x 80 GB 2.5&quot; (RAID controller onboard)</td>
</tr>
<tr>
<td>Hard disks (3.5&quot; serial ATA with NCQ technology)</td>
<td>CompactFlash card (CFC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optical drives</th>
<th>Optical drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floppy disk drive</td>
<td></td>
</tr>
</tbody>
</table>
### USB 2.0 high-current
- 2 x USB at front, 6 x USB at rear, 1 x USB internal (with mech. interlocking)  
- 2 x USB at front (one can be used with the door closed), 4 x USB at rear, 1 x USB internal (with mech. interlocking)

### Serial / parallel
- COM1; COM2 and LPT1 (optional)
- COM1; COM2 / LPT1

### VGA / DVI
- 1 x VGA / 1 x DVI-D via adapter (ADD card), optional  
- 1 x DVI-I / 1 x VGA through adapter, optional  
- 2 x VGA or 2 x DVI-D via PCIe graphics card, optional

### Keyboard, mouse
- 2 x PS/2

### Audio
- 1 x line in; 1 x line out; 1 x micro  
- 1 x micro; 1 x line out

### Monitoring / diagnostics functions

#### Basic functionality
- Temperature, fan, watchdog (local alarm via SIMATIC PC DiagBase)

#### Advanced functions
- Temperature, fan, watchdog, hard disks (SMART) • System/Ethernet monitoring • Operating hours meter • CF diagnostics Communication via Ethernet; SNMP and OPC interface (optionally via SIMATIC PC DiagMonitor software)

### Front LEDs
- POWER, HARD DISK, TEMP, FAN
- POWER, HARD DISK; ETHERNET 1/2, PROFIBUS/MPI; SF PROFINET, WATCHDOG, TEMP, FAN, HDD1/2 ALARM

### Ambient conditions

#### Degree of protection acc. to EN 60529
- IP30 at front, IP20 at rear
- IP41 at front, IP20 at rear

#### Protection class
- Protection class I compliant with IEC 61140

#### Vibration during operation
- 20 ... 58 Hz: 0.015 mm; 58 ... 200 Hz: 2 m/s² (approx. 0.2 g) according to IEC 60068-2-6  
- 10 ... 58 Hz: 0.0375 mm; 58 ... 500 Hz: 5 m/s² (approx. 0.5 g) according to IEC 60068-2-6

#### Shock during operation
- 9.8 m/s², 20 ms (approx. 1 g) according to IEC 60068-2-27  
- 50 m/s², 30 ms (approx. 5 g) according to IEC 60068-2-27

#### Ambient temperature during operation
- 5 ... 40 °C, at full processor capability  
- 5 ... 50 °C, at full processor capability

#### Humidity
- 5 ... 80 % at 25 °C (no condensation)  
- 5 ... 80 % at 30 °C (no condensation)

### Electromagnetic compatibility (EMC)

#### Emissions
- EN 55022 Class B, FCC Class A
- EN 55022 Class B, FCC Class A

#### Immunity
- ± 2 kV (IEC 61000-4-4, burst), ± 1 kV (IEC 61000-4-5, surge symm.), ± 2 kV (IEC 61000-4-5, surge asymm.)
- ± 1 kV (IEC 61000-4-4, burst, length < 10 m), ± 2 kV (IEC 61000-4-5, surge, length > 30 m)
- ± 4 kV contact discharge (IEC 61000-4-2) ± 8 kV air discharge (IEC 61000-4-2)
- ± 6 kV contact discharge (IEC 61000-4-2) ± 8 kV air discharge (IEC 61000-4-2)
- 10 V/m 80 % AM, 80-1000 MHz and 1.4 - 2 GHz (IEC 61000-4-3); 1 V/m 80 % AM, 2.0-2.7 GHz (IEC 61000-4-3); 10 V, 10 kHz to 80 MHz (IEC 61000-4-6)
- ± 6 kV contact discharge (IEC 61000-4-2) ± 8 kV air discharge (IEC 61000-4-2)
- ± 1 kV (IEC 61000-4-4, burst; length < 3 m), ± 2 kV (IEC 61000-4-4, burst; length > 3 m)

#### against high-frequency interference
- 10 V/m 80 % AM, 80-1000 MHz and 1.4 - 2 GHz (IEC 61000-4-3); 1 V/m 80 % AM, 2.0-2.7 GHz (IEC 61000-4-3); 10 V, 10 kHz to 80 MHz (IEC 61000-4-6)
- 100 A/m, 50/60 Hz (IEC 61000-4-8)

### Approvals/guidelines

#### Safety
- EN 60950, UL 60950
- For use in industrial and office areas/ cULus (UL 60950), WEEE / RoHS

#### Dimensions and weight

<table>
<thead>
<tr>
<th>Installation dimensions (W x H x D)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>434 x 177 x 446 mm</td>
<td>Approx. 19 kg</td>
</tr>
<tr>
<td>430 x 88 x 448 mm</td>
<td>Approx. 13 kg</td>
</tr>
</tbody>
</table>

---

1) **MUI** (Multi Language User Interface); 5 languages (ENG, GER, FR, SP, IT)
2) **Hot-swap frame**
3) **Limitations when using optical drives and removable frames**
<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4 x USB</strong></td>
<td>COM1; COM2 (optional)</td>
</tr>
<tr>
<td><strong>1 x DVI-I (VGA via adapter), dual-head (VGA/DVI-D) via Y cable</strong></td>
<td>Connection via USB interface</td>
</tr>
<tr>
<td><strong>Temperature, watchdog (local alarm via SIMATIC PC DiagBase)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Temperature, watchdog, hard disks, SSD (SMART)</strong></td>
<td>• System/Ethernet monitoring • Operating hours meter • CF diagnostics • Communication via Ethernet, SNMP and OPC interface (optionally via SIMATIC PC DiagMonitor software)</td>
</tr>
<tr>
<td><strong>Front LEDs on IPC847C:</strong></td>
<td>POWER, HARD DISK; ETHERNET 1/2, PN/ MPI/DP, WATCHDOG, TEMP, FAN, HDD1/2/3 ALARM</td>
</tr>
<tr>
<td><strong>POWER, WATCHDOG; two user LEDs, bi-colored, freely programmable</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IP20</strong></td>
<td>Protection class I according to VDE 0106 Part 1 (IEC 536)</td>
</tr>
<tr>
<td></td>
<td>10 … 58 Hz: 0.075 mm; 58 … 500 Hz: 9.8 m/s² for operation with CompactFlash memory, SSD</td>
</tr>
<tr>
<td></td>
<td>150 m/s², 11 ms (approx. 15 g) for operation with CompactFlash memory, SSD</td>
</tr>
<tr>
<td></td>
<td>0 … 55 °C (with CompactFlash memory), 0 … 50 °C (with SSD), 5 … 40 °C (with hard disk) customized 60/65 °C on request</td>
</tr>
<tr>
<td><strong>EN 55022 Class A, FCC Class A</strong></td>
<td>EN 55022 Class B</td>
</tr>
<tr>
<td>± 2 kV (IEC 61000-4-5, surge; length &gt; 30 m)</td>
<td>± 6 kV contact discharge (IEC 61000-4-2) ± 8 kV air discharge (IEC 61000-4-2)</td>
</tr>
<tr>
<td></td>
<td>Economical packages with WinCC, WinCC flexible and WinAC RTX (F) Economical packages with WinCC, WinCC flexible and WinAC RTX (F); turnkey bundles with WinCC flexible and WinAC RTX (F)</td>
</tr>
<tr>
<td></td>
<td>IEC 60950-1 For use in industrial areas/ cULus (UL 60950), WEEE / RoHS For use in industrial and office areas/ cULus (UL508 and UL60950), WEEE / RoHS</td>
</tr>
<tr>
<td>430 x 177 x 448 mm</td>
<td>403 x 177 x 448 mm</td>
</tr>
<tr>
<td>Approx. 19 kg</td>
<td>Basic unit: approx. 262 x 134 x 47 mm; Depth starting from DIN rail: 52 mm Additional depth per expansion (1-3): +17 mm Approx. 2 kg</td>
</tr>
</tbody>
</table>

4) **Specification for complete unit**
5) **At full processor performance (without throttling)**
6) **According to specifications of Siemens declaration Suitable for Linux**
7) **Microbox PC with PROFINET onboard only 1 x Ethernet**
<table>
<thead>
<tr>
<th>USB 2.0 high-current</th>
<th>Serial / parallel</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM1; COM2 / LPT1</td>
<td>VGA / DVI</td>
</tr>
<tr>
<td>Keyboard, mouse</td>
<td>Audio</td>
</tr>
</tbody>
</table>

**Monitoring / diagnostics functions**

- Temperature, fan, watchdog (local alarm via Safecard on Motherboard (SOM) or SIMATIC PC DiagBase)
- Basic functionality
- Temperature, fan, watchdog, hard disks (SMART) • System/Ethernet monitoring • Operating hours meter • CF diagnostics • Communication via Ethernet; SNMP and OPC interface (optionally via SIMATIC PC DiagMonitor software)
- Advanced functions
- Two LEDs, bi-colored; two 7-segment displays; freely programmable
- Front LEDs

**Ambient conditions**

- Degree of protection according to EN 60529
- Protection class
- 10 ... 58 Hz, 0.075 mm; 58 ... 500 Hz, 9.8 m/s² (approx. 1 g)
- Vibration during operation
- 50 m/s²; 30 ms (approx. 5 g)
- Shock during operation
- 55 °C / 50 °C / 5 ... 45 °C
- Ambient temperature during operation
- 5 ... 80 % at 25 °C (no condensation)
- Humidity

**Electromagnetic compatibility (EMC)**

- EN 55022 Class B, FCC Class A
- Emissions
- Immunity
- ■ against conducted interference on the supply lines
- ■ on signal cables
- ■ against discharge of static electricity
- ■ against high-frequency interference
- ■ against magnetic fields
- Economical packages with WinCC, WinCC flexible and WinAC RTX (F)
- Packages, bundles

**Approvals/guidelines**

- IEC 60950-1
- For use in industrial and office areas/ cULus (UL508 and UL60950), RoHS
- Safety
- CE mark / EU directives, certifications

**Dimensions and weight**

| 298 x 100 x 301mm (incl. mounting rail); 298 x 80 x 301mm (incl. mounting rail, without optical drives) | 298 x 170 x 301 mm (incl. mounting rail); 298 x 150 x 301 mm (incl. mounting rail, without optical drives) | Installation dimensions (W x H x D) |
| Approx. 7 kg | Approx. 11 kg | Weight |

*Subject to change without prior notice*
**HMI IPC477C – Compact, rugged and maintenance-free in embedded technology**

### Display

<table>
<thead>
<tr>
<th>Size in inches / resolution in pixels</th>
<th>Central / distributed configuration</th>
<th>Control elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12” Touch / Keys</strong></td>
<td>12” / SVGA (800 x 600)</td>
<td></td>
</tr>
<tr>
<td><strong>15” Touch / Keys / PRO</strong></td>
<td>15” / XGA (1024 x 768)</td>
<td>– / –</td>
</tr>
<tr>
<td><strong>19” Touch / PRO</strong></td>
<td>19” / SXGA (1280 x 1024)</td>
<td>– / –</td>
</tr>
</tbody>
</table>

### Size in inches / resolution in pixels

- **12” Touch / Keys**: 12” / SVGA (800 x 600)
- **15” Touch / Keys / PRO**: 15” / XGA (1024 x 768)
- **19” Touch / PRO**: 19” / SXGA (1280 x 1024)

### Central / distributed configuration

- **12” Touch / Keys**: – / –
- **15” Touch / Keys / PRO**: – / –
- **19” Touch / PRO**: – / –

### Control elements

- **Keyboard**: – / –
- **Function keys**: – / 36
- **Touch screen (analog/resistive)**: – / –
- **Mouse, front**: – / –

### General features

- **Processor**:
  - Intel Core2 Duo SU9300 (2 x 1.2 GHz, 800 MHz FSB, 3 MB L2 cache)
  - Intel Core2 Solo ULV SU3300 (1 x 1.2 GHz, 800 MHz FSB, 3 MB L2 cache, ultra low voltage CPU)
  - Intel Celeron M ULV 722 (1.2 GHz, 800 MHz FSB, 1 MB L2 cache, ultra low voltage CPU)
- **Main memory**: 1 ... 4 GB DDR3
- **Free expansion slots**: 1 x slot for CompactFlash card
- **Operating system**: Microsoft Windows Embedded Standard 2009 (preinstalled on CompactFlash card) or Microsoft Windows XP Professional (preinstalled on SSD)
- **Power supply**: 24 V DC
- **MTBF background illumination**: Typically 50,000 h (with 24-h continuous operation, temperature-dependent)
- **Drives**:
  - **Bulk memory**: 2 x CompactFlash drive with 2, 4 or 8 GB or SSD (Solid State Drive), at least 32 GB
  - **Floppy drive**: Optional via USB as accessory
- **Interfaces**:
  - PROFIBUS/MPI: Onboard, isolated, max. 12 Mbit/s, compatible with CP 5611
  - PROFINET: Onboard, 1 x 10/100 Mbit/s (with integral 3-port switch, compatible with CP 1616)
  - **Ethernet**: 2 x onboard, 10/100/1000 Mbit/s, RJ45
  - **USB (2.0 high current)**: 1 x front-mounted (except on PRO); 4 x rear-mounted
  - **Serial, parallel interfaces**: COM1: 1 x V.24 (RS232)
  - **Graphics interface**: DVI-I can be used for additional display unit
  - **Keyboard; mouse**: Connection via USB interfaces
- **Monitoring functions**:
  - Temperature, watchdog: Onboard
- **Ambient conditions**:
  - **Degree of protection**: IP65 (front) tested to EN 60529, NEMA 4; 15” and 19” Touch also available as PRO versions with all-round IP65 degree of protection.
  - **Vibration load during operation**: Tested according to DIN IEC 60068-2-6: 10 … 58 Hz: 0.075 mm, 58 … 200 Hz: 9.8 m/s² (1 g)
  - **Shock load during operation**: Tested according to DIN IEC 60068-2-27: 50 m/s² (5 g), 30 ms
  - **EMC**: CE, FCCA, 55022A, EN 61000-6-4/61000-6-2
  - **Ambient temp. in max. configuration**: 0 ... 45 °C
  - **Relative humidity**: Tested according to IEC 60068-2-78, IEC 60068-2-30: 5 ... 80 % at 25 °C (no condensation)
- **Certification / EU directives**:
  - CE, cULus (508), marine engineering (except PRO)
- **Packages / bundles**:
  - Economical packages with WinCC, WinCC flexible and WinAC RTX (F) as well as turnkey bundles with WinCC flexible and WinAC RTX (F)
- **Dimensions**:
  - **Operator panel (W x H)**: 400 x 310 mm / 483 x 310 mm
  - **Mounting dimensions (W x H x D) without opt. drives, PRO: none installed**: 368 x 290 x 61 mm / 450 x 290 x 61 mm
  - **Power loss in max. configuration**: 24 V DC: max. 40 W ¹)

### Notes

1) Contains 15 W per slot
2) GER, ENG, IT, FR, SP, KOR, CHN (traditional), CHN (simplified), JPN
3) 3 W per slot
HMI IPC577C – Industrial functionality at an attractive price

<table>
<thead>
<tr>
<th>12&quot; Touch / Keys</th>
<th>15&quot; Touch / Keys</th>
<th>19&quot; Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; / SVGA (800 x 600)</td>
<td>15&quot; / XGA (1024 x 768)</td>
<td>19&quot; / SXGA (1280 x 1024)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intel Core2 Duo SL9400 (2 x 1.86 GHz, 1066 MHz FSB, 6 MB L2 cache)</td>
<td>Intel Core2 Solo ULV SU3300 (1 x 1.2 GHz, 800 MHz FSB, 3 MB L2 cache, ultra low voltage CPU)</td>
<td>Intel Celeron M ULV 722 (1.2 GHz, 800 MHz FSB, 1 MB L2 cache, ultra low voltage CPU)</td>
</tr>
<tr>
<td>1 ... 4 GB DDR3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x vacant PCI slot for expansions (with card retainer);</td>
<td>1 x slot for CompactFlash card</td>
<td></td>
</tr>
<tr>
<td>Windows XP Prof. (Multi Language ²), Windows Embedded Standard 2009 (Eng.) on 2 GB CF card; optionally without operating system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 V DC or 100-240 V AC (autorange)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typically 50,000 h (with 24-h continuous operation, temperature-dependent)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 x CompactFlash drive with 2, 4 or 8 GB or SSD (Solid State Drive), at least 32 GB, SATA hard disk drive ≥ 80 GB

DVD±RW±R
Optional via USB; available as accessory: 1.44 MB 3.5"°

Onboard, isolated, max. 12 Mbit/s, compatible with CP 5611
Onboard, 1 x 10/100 Mbit/s (with integral 3-port switch, compatible with CP 1616) optional instead of PROFIBUS
2 x onboard, 10/100/1000 Mbit/s, RJ45 ⁷)
1 x front (USB 2.0 high-current), 4 x rear (USB 2.0, 2 of which high-current)
COM1: 1 x V.24 (9-pole), LPT 1: optional via PCI plug-in card
DVI-I can be used for additional display unit
Connection via USB interfaces

Onboard

IP65 (front) tested according to EN 60529, NEMA 4
Tested according to DIN IEC 60068-2-6: 10 ... 58 Hz: 0.075 mm, 58 ... 200 Hz: 9.8 m/s² (1 g)
Tested according to DIN IEC 60068-2-27: 50 m/s² (5 g), 30 ms
CE, FCCA, EN 55022A, EN 61000-6-2, EN 61000-6-4
0 ... 50 °C in installation space, max 40 °C if front mounted
Tested according to DIN IEC 60068-2-78, DIN IEC 60068-2-30: 5 ... 80 % at 25 °C (no condensation)
CE, cULus (508)
Economical packages with WinCC, WinCC flexible and WinAC RTX (F)

400 x 310 mm
483 x 310 mm
483 x 400 mm

Touch: 368 x 290 x 84 mm
Keys: 450 x 290 x 94 mm
max. 60 W ¹)

Touch: 450 x 290 x 87 mm
Keys: 450 x 321 x 97 mm
max. 60 W ¹)

450 x 380 x 94 mm
max. 70 W ¹)
## HMI IPC 677C – Performance and flexibility

<table>
<thead>
<tr>
<th>12&quot; Touch / Keys</th>
<th>15&quot; Touch / Keys / INOX</th>
<th>17&quot; Touch</th>
<th>19&quot; Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; / SVGA (800 x 600)</td>
<td>15&quot; / XGA (1024 x 768)</td>
<td>17&quot; / SXGA (1280 x 1024)</td>
<td>19&quot; / SXGA (1280 x 1024)</td>
</tr>
<tr>
<td>– / –</td>
<td>– / –</td>
<td>– / –</td>
<td>– / –</td>
</tr>
<tr>
<td>– / 36 with LEDs</td>
<td>– / –</td>
<td>– / –</td>
<td>– / –</td>
</tr>
<tr>
<td>– / –</td>
<td>– / –</td>
<td>– / –</td>
<td>– / –</td>
</tr>
</tbody>
</table>

**Intel Core i7-610E (2C/4T, 2.53 GHz, 4 MB L2 cache, turbo boost, VT-d, EM64T)**

**Intel Core i3-330E (2C/4T, 2.13 GHz, 3 MB L2 cache, EM64T)**

**Intel Celeron P 4505 (2C/2T, 1.86 GHz, 2 MB L2 cache)**

From 1 GB DDR3 1066 SDRAM; DIMM; expandable to 8 GB; ECC optional; retentive memory: static RAM 2 MB opt.

2 free slots for expansions: 2 x PCI or 1 x PCI and 1 x PCIe x 16 (all slots with card retainers);
1 x slot for CompactFlash card


Windows 7 Ultimate; optionally without operating system

110/230 V AC (wide-range), 50/60 Hz; or 24 V DC

Typically 50,000 h (with 24-h continuous operation, temperature-dependent)

3.5" SATA hard disk drive ≥ 250 GB. Optional: 3.5" SATA hard disk drive (≥ 500 GB), 2 x 2.5" SATA hard disk module (≥ 320 GB), single-disk configuration or RAID1 set pre-configured; RAID1 controller onboard; all hard disks: vibration and oscillation-damped. Optional: 2. internal CF card holder (instead of hard disk and optical drive) or SSD min. 32 GB

DVD±R±RW burner (not with second internal CF card holder)

Optional via USB; available as accessory: 1.44 MB 3.5"

Onboard, isolated, max. 12 Mbit/s, compatible with CP 5611 (optional)

Onboard, 1 x 10/100 Mbit/s (with integral 3-port switch, compatible with CP 1616) optional instead of PROFINET

2 x onboard, 10/100/1000 Mbit/s, RJ45

1 x front (USB 2.0 high-current), 4 x rear (USB 2.0, two of which are high-current)

COM1: 1 x V.24 (9-pole), LPT 1: optional via PCI plug-in card

–

Connection via USB interfaces

### Onboard

IP65 (front) tested according to EN 60529, NEMA 4; 15" Touch INOX: IP66K (front)

Tested according to DIN IEC 60068-2-6: 10 … 58 Hz: 0.075 mm, 58 … 200 Hz: 9.8 m/s² (1 g)

Tested according to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shock loads

CE, EN 55011, EN 61000-6-2, EN 61000-6-4

5 … 50 °C

Tested according to DIN IEC 60068-2-78, DIN IEC 60068-2-30, DIN IEC 60068-2-56: 5 … 80 % at 25 °C (no condensation)

CE, cULus (508), RoHS

Economical packages with WinCC, WinCC flexible and WinAC RTX (F)

<table>
<thead>
<tr>
<th>Touch</th>
<th>Touch</th>
<th>Touch</th>
<th>Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 x 310 mm; Keys: 483 x 310 mm</td>
<td>483 x 310 mm; Keys: 483 x 355 mm</td>
<td>483 x 400 mm</td>
<td>483 x 400 mm</td>
</tr>
<tr>
<td>368 x 290 x 123 mm; Keys: 450 x 290 x 104 mm</td>
<td>450 x 290 x 121 mm; Keys: 450 x 321 x 123 mm</td>
<td>450 x 380 x 129 mm</td>
<td>450 x 380 x 129 mm</td>
</tr>
<tr>
<td>max. 140 W</td>
<td>max. 140 W</td>
<td>max. 160 W</td>
<td>max. 163 W</td>
</tr>
</tbody>
</table>

1) GER, ENG, IT, FR, SP

2) Not with 15" Touch INOX

3) 17" and 19": 5 … 45°C or 5 … 50 °C in installation space, max. 40 °C if at the front

4) with PROFINET onboard 1 Gigabit Ethernet
<table>
<thead>
<tr>
<th>Display size</th>
<th>15&quot; Touch</th>
<th>19&quot; Touch</th>
<th>15&quot; Touch</th>
<th>19&quot; Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution in pixels</td>
<td>XGA (1024 x 768)</td>
<td>SXGA (1280 x 1024)</td>
<td>XGA (1024 x 768)</td>
<td>SXGA (1280 x 1024)</td>
</tr>
<tr>
<td>Front type</td>
<td>Very smooth plastic front membrane</td>
<td>–</td>
<td>–</td>
<td>Unlimited via network connection</td>
</tr>
<tr>
<td>Max. distance to computing unit</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>Unlimited via network connection</td>
</tr>
</tbody>
</table>

### Operator controls

<table>
<thead>
<tr>
<th></th>
<th>SIMATIC HMI Panel PC Ex</th>
<th>SIMATIC HMI Thin Client Ex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboard</td>
<td>Available as accessory with Ex certification</td>
<td>–</td>
</tr>
<tr>
<td>Function keys</td>
<td>8 function keys</td>
<td>8 function keys, pre-assigned for operation</td>
</tr>
<tr>
<td>Touch screen (analog/resistive)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Mouse, front</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### General features

<table>
<thead>
<tr>
<th>Processor / chip set</th>
<th>Intel Atom N270 (1.6 GHz) / Mobile Intel 945GSE</th>
<th>Based on x86</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main memory</td>
<td>1 GB DDR2 SDRAM</td>
<td>–</td>
</tr>
<tr>
<td>Onboard graphics</td>
<td>Intel GMA 950 graphics controller integrated in chipset</td>
<td>–</td>
</tr>
<tr>
<td>Operating system</td>
<td>Microsoft Windows XP Professional or Microsoft Windows XP Embedded</td>
<td>Closed system on the basis of Windows XP Embedded</td>
</tr>
<tr>
<td>Power supply</td>
<td>24 V DC</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Maximum power consumption</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>MTBF background illumination</td>
<td>Typically 50,000 h</td>
<td>Typically 50,000 h</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Drives

| Bulk memory | CompactFlash 4 GB or 16 GB (not swappable) or HDD 60 GB or 120 GB | – |
| DVD / floppy disk drive | Optionally over USB (not for hazardous areas) | – |
|                      | – | – |

### Interfaces

<table>
<thead>
<tr>
<th>Ethernet</th>
<th>1 x 100 Mbit/s Ex e; or fiber-optics 100 Mbit/s (SC) Ex op is</th>
<th>1 x 100 Mbit/s Ex e; or fiber-optics 100 Mbit/s (SC) Ex op is</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB (universal serial bus)</td>
<td>2 x Ex i; 2 x Ex e (&quot;Zone 1&quot; variant) or 2 x Ex nA (&quot;Zone 2&quot; variant)</td>
<td>2 x Ex i; 2 x Ex e (&quot;Zone 1&quot; variant) or 2 x Ex nA (&quot;Zone 2&quot; variant)</td>
</tr>
<tr>
<td>Serial, parallel interfaces</td>
<td>2 x RS232 or 2 x RS422/485</td>
<td>2 x RS232 or 2 x RS422/485</td>
</tr>
<tr>
<td>Graphics interface</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Ambient conditions

<table>
<thead>
<tr>
<th>Degree of protection according to EN 60529</th>
<th>IP66 (at front); IP65 (at rear)</th>
<th>IP66 (at front); IP65 (at rear)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration load during operation (tested according to DIN IEC 60068-2-6)</td>
<td>3 ... 22 Hz: 1 mm, 22 ... 500 Hz: 9.8 m/s² (1 g)</td>
<td>3 ... 22 Hz: 1 mm, 22 ... 500 Hz: 9.8 m/s² (1 g)</td>
</tr>
<tr>
<td>Shock load during operation (tested acc. to DIN IEC 60068-2-29)</td>
<td>150 m/s² (approx. 15 g), 11 ms when used with CompactFlash</td>
<td>150 m/s² (approx. 15 g), 11 ms when used with CompactFlash</td>
</tr>
<tr>
<td>EMC</td>
<td>CE, FCCA, 55022A, EN 61000-6-4/61000-6-2</td>
<td>CE, EN 55011, EN 61000-6-4</td>
</tr>
<tr>
<td>Ambient temperature during operation with max. configuration</td>
<td>Cold restart: - 10 ... 50 °C, operation: - 20 ... 50 °C, operation with heating: -30 ... 50 °C</td>
<td></td>
</tr>
<tr>
<td>Relative humidity (tested acc. to DIN IEC 60068-2-3, DIN IEC 60068-2-30, DIN IEC 60068-2-56)</td>
<td>90 % at 40 °C (no condensation)</td>
<td>90 % at 40 °C (no condensation)</td>
</tr>
</tbody>
</table>

### Certifications / EU directives

*Zone 1* version:  II 2 (2) G Ex d e mb ib [ib] [op is], IIC T4, II 2 D Ex tD A21 IP65 T90 °C, DNV (marine approvals), GOST-R, Ul-Inmetro

*Zone 2* version:  II 3 (3) G Ex d e mb nA nL [nL] [op is], IIC T4, II 3 (2) G Ex d e mb nA nL [ib] [op is], IIC T4, II 3 (2) D Ex tD A22 IP65 [ibD] T90 °C, GOST-R; UL Class 1 Div. 2 available soon

### Dimensions

| Operator panel (W x H) | 440 x 340 mm | 535 x 425 mm | 440 x 340 mm | 535 x 425 mm |
| Installation dimensions (W x H x D) PRO: none installed | 427.5 x 327.5 x 165 mm | 522.5 x 412.5 x 165 mm | 427.5 x 327.5 x 165 mm | 522.5 x 412.5 x 165 mm |
## Thin Client

<table>
<thead>
<tr>
<th>Display size</th>
<th>10&quot; Touch</th>
<th>15&quot; Touch / PRO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution in pixels</td>
<td>VGA (640 x 480)</td>
<td>VGA (1024 x 768)</td>
</tr>
<tr>
<td>Touch screen (analog/resistive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front type</td>
<td>Plastic</td>
<td>Plastic / aluminum</td>
</tr>
<tr>
<td>Max. distance to computing unit</td>
<td>Unlimited via Ethernet</td>
<td></td>
</tr>
</tbody>
</table>

### General features

| Power supply | 24 V DC | 24 V DC |
| Protocols supported | RDP (Remote Desktop Protocol), Sm@rt Access, VNC (Virtual Network Computing)*, SINUMERIK support*, Citrix ICA* | |
| MTBF background illumination | Typically 50,000 h | Typically 50,000 h |

### Interfaces

| USB (universal serial bus) | 1 x at rear | 1 x at rear |
| Ethernet | 1 x 10/100/1000 Mbit/s, RJ45 | 1 x 10/100/1000 Mbit/s, RJ45 |

### Ambient conditions

| Degree of protection | IP20 (at rear), IP54 (at front) according to EN 60529, NEMA 4 (optional) | IP20 (at rear), IP54 (at front) according to EN 60529, NEMA 4 (optional) / all-round IP65, enclosure type 4X |
| Vibration load during operation (tested according to DIN IEC 60068-2-6) | 10 ... 58 Hz: 0.0165 mm, 58 ... 200 Hz: 9.8 m/s² (1 g) | 10 ... 58 Hz: 0.0165 mm, 58 ... 200 Hz: 9.8 m/s² (1 g) |
| Shock load during operation (tested acc. to DIN IEC 60068-2-29) | 50 m/s² (5 g), 30 ms | |
| EMC | CE, EN 55011, EN 61000-6-4 | CE, EN 55011, EN 61000-6-4 |
| Ambient temperature during operation with maximum configuration | 0 ... 50 °C | 0 ... 50 °C |
| Relative humidity (tested acc. to DIN IEC 60068-2-3, DIN IEC 68-2-30, DIN IEC 60068-2-56) | 5 ... 85 % at 25 °C (no condensation) | 5 ... 85 % at 25 °C (no condensation) |

### Certifications / EU directives

| CE, cULus (508) | |

### Dimensions

| Operator panel (W x H) | 335 x 275 mm | 400 x 310 mm |
| Installation dimensions (W x H x D) | 310 x 247 x 60 mm | 366 x 288 x 60 mm |

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## Flat Panel Monitors

<table>
<thead>
<tr>
<th>Display size</th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution in pixels</td>
<td>SVGA (800 x 600)</td>
<td>XGA (1024 x 768)</td>
<td>SXGA (1280 x 1024)</td>
</tr>
<tr>
<td>Front type</td>
<td>Very smooth plastic front membrane</td>
<td>Very smooth plastic front membrane</td>
<td>Very smooth plastic front membrane</td>
</tr>
<tr>
<td>Max. distance to computing unit</td>
<td>30 m</td>
<td>30 m</td>
<td>30 m</td>
</tr>
</tbody>
</table>

### Operator controls

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboard</td>
<td>– / ■</td>
<td>– / ■ / –</td>
<td>–</td>
</tr>
<tr>
<td>Function keys</td>
<td>– / 36 with LEDs</td>
<td>– / 36 with LEDs / –</td>
<td>–</td>
</tr>
<tr>
<td>Touch screen (analog/resistive)</td>
<td>Optional / –</td>
<td>Optional / – / ■</td>
<td>Optional</td>
</tr>
<tr>
<td>Mouse, front</td>
<td>– / ■</td>
<td>– / ■ / –</td>
<td>–</td>
</tr>
</tbody>
</table>

### General features

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor / chip set</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Main memory</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Onboard graphics</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Operating system</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Power supply</td>
<td>24 V DC / 110/230 V AC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum power consumption</td>
<td>35 W</td>
<td>40 W</td>
<td>55 W</td>
</tr>
<tr>
<td>MTBF background illumination</td>
<td>Typically 50,000 h (with 24-h continuous operation, temperature-dependent)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Drives

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk memory</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DVD / floppy disk drive</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Interfaces

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB (universal serial bus)</td>
<td></td>
<td></td>
<td>Up to 2 x for additional I/O devices (optional)</td>
</tr>
<tr>
<td>Serial, parallel interfaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphics interface</td>
<td>DVI-D, VGA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ambient conditions

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection according to EN 60529</td>
<td>IP65 (at front), NEMA 4</td>
<td>IP65 (at front), NEMA 4</td>
<td>IP65 (at front), NEMA 4</td>
</tr>
<tr>
<td>PRO: Complete IP65, enclosure type 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration load during operation (tested according to DIN IEC 60068-2-6)</td>
<td>10 ... 58 Hz: 0.0165 mm, 58 ... 200 Hz: 9.8 m/s² (1 g)</td>
<td>10 ... 58 Hz: 0.0165 mm, 58 ... 200 Hz: 9.8 m/s² (1 g)</td>
<td>10 ... 58 Hz: 0.0165 mm, 58 ... 200 Hz: 9.8 m/s² (1 g)</td>
</tr>
<tr>
<td>Shock load during operation (tested acc. to DIN IEC 60068-2-29)</td>
<td>50 m/s² (5 g), 30 ms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMC</td>
<td>CE, EN 55011, EN 61000-6-2, EN 61000-6-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature during operation with max. configuration</td>
<td>5 ... 50 °C</td>
<td>5 ... 50 °C</td>
<td>5 ... 50 °C</td>
</tr>
<tr>
<td>Relative humidity (tested acc. to DIN IEC 60068-2-3, DIN IEC 60068-2-30, DIN IEC 60068-2-56)</td>
<td>5 ... 80 % at 25 °C (no condensation)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Certifications / EU directives

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE, cULus (508), optional: marine approvals, ATEX 22 (Ex)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th></th>
<th>12” Touch / Keys</th>
<th>15” Touch / Keys / PRO</th>
<th>17” Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator panel (W x H)</td>
<td>400 x 310 mm</td>
<td>483 x 310 mm</td>
<td>483 x 400 mm</td>
</tr>
<tr>
<td>Installation dimensions (W x H x D)</td>
<td>368 x 290 x 51 mm</td>
<td>450 x 290 x 54 mm</td>
<td>450 x 380 x 57 mm</td>
</tr>
</tbody>
</table>
## SCD Monitor SCD1900

### 19" Touch / PRO

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>19&quot; widescreen</td>
<td>SXGA (1280 x 1024)</td>
</tr>
<tr>
<td>Resolution in pixels</td>
<td>WXGA+ (1440 x 900)</td>
</tr>
<tr>
<td>Max. distance to computing unit</td>
<td>30 m</td>
</tr>
<tr>
<td></td>
<td>5 m</td>
</tr>
</tbody>
</table>

### Operator controls

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>–</td>
<td>Keyboard</td>
</tr>
<tr>
<td>–</td>
<td>Function keys</td>
</tr>
<tr>
<td>Optional / ■</td>
<td>Touch screen (analog/resistive)</td>
</tr>
<tr>
<td>–</td>
<td>Mouse, front</td>
</tr>
</tbody>
</table>

### General features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tr>
<td>Onboard graphics</td>
<td></td>
</tr>
<tr>
<td>Operating system</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Maximum power consumption</td>
<td>55 W</td>
</tr>
<tr>
<td>MTBF background illumination</td>
<td>50 W</td>
</tr>
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### Drives

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<thead>
<tr>
<th>Drive</th>
<th>Specification</th>
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<td>Bulk memory</td>
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<tr>
<td>DVD / floppy disk drive</td>
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### Interfaces

<table>
<thead>
<tr>
<th>Interface</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>No</td>
</tr>
<tr>
<td>USB (universal serial bus)</td>
<td></td>
</tr>
<tr>
<td>Serial, parallel interfaces</td>
<td></td>
</tr>
<tr>
<td>Graphics interface</td>
<td></td>
</tr>
</tbody>
</table>

### Ambient conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Specification</th>
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<tr>
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<tr>
<td></td>
<td>10 ... 58 Hz: 0.0165 mm, 58 ... 200 Hz: 9.8 m/s² (1 g)</td>
</tr>
<tr>
<td>Shock load during operation</td>
<td>(tested according to DIN IEC 6068-2-6)</td>
</tr>
<tr>
<td>EMC</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature during operation with maximum configuration</td>
<td>5 ... 50 °C PRO: 5 ... 45 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td></td>
</tr>
<tr>
<td>CE, cULus (508)</td>
<td></td>
</tr>
</tbody>
</table>

### Certifications / EU directives

<table>
<thead>
<tr>
<th>Certification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>483 x 400 mm PRO: 483 x 310 mm</td>
</tr>
<tr>
<td>Installation dimensions</td>
<td>450 x 380 x 57 mm PRO: none installed</td>
</tr>
</tbody>
</table>

Subject to change without prior notice
Original accessories for SIMATIC IPCs
System-tested and perfectly suited for industrial applications

**SIMATIC IPC original accessories**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB FlashDrive</td>
<td>2 GB (USB 2.0)</td>
</tr>
<tr>
<td>CompactFlash</td>
<td>256 MB, 2 GB, 4 GB, 8 GB; Also as CF cards with diagnostics capability for monitoring with SIMATIC PC DiagMonitor V4.1</td>
</tr>
<tr>
<td>Keyboards</td>
<td>• Standard keyboard with PS/2 or USB connection (optionally with USB hub)</td>
</tr>
<tr>
<td></td>
<td>• IP65 membrane keyboard with touchpad</td>
</tr>
<tr>
<td></td>
<td>• 19&quot; built-in keyboard with touchpad or trackball (IP65)</td>
</tr>
<tr>
<td></td>
<td>• 19&quot; slide-in keyboard with trackball</td>
</tr>
<tr>
<td>Mouse</td>
<td>Optical wheel mouse for PS/2 or USB interface</td>
</tr>
<tr>
<td>Touch pen</td>
<td>Ergonomically designed touch pen for optimum user friendliness, can be mounted in a special holder next to the Panel PC</td>
</tr>
<tr>
<td>Printers</td>
<td>Matrix needle printer with high printing speed and low noise level for printing continuous paper, individual sheets and carbon copies</td>
</tr>
</tbody>
</table>

Customized hardware

SIMATIC IPCs are completely system-tested and supplied with inserted function cards. You therefore save time and costs, especially for commissioning. Function cards are PC modules which cover the customized functional expansions.

As they are already tested and qualified, they can be used in the same way as a standard product. They are tested modules which can also be ordered already integrated in the SIMATIC IPC.

They satisfy the high SIMATIC quality standards, including:
- SIMATIC quality
- RoHS conformity
- Declaration of conformity CE-industry

The function cards can be combined in line with a configuration scheme. This includes the possible technical combinations regarding slots and interrupts.

Clarification of the technical possibilities is carried out by the Customization Center

www.siemens.com/customized-pc
www.siemens.com/customized-automation

**Function cards for SIMATIC Box PC 627B/827B and SIMATIC Rack PC 847B:**

<table>
<thead>
<tr>
<th>Bus system</th>
<th>Function card with</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI</td>
<td>2x RS 232</td>
</tr>
<tr>
<td></td>
<td>2x RS 485</td>
</tr>
<tr>
<td></td>
<td>1x LAN 10/100/1000 Mbit/s</td>
</tr>
<tr>
<td></td>
<td>PROFIBUS DP</td>
</tr>
<tr>
<td></td>
<td>PROFINET (4-port)</td>
</tr>
<tr>
<td>PCIe x1 *)</td>
<td>4x RS 232</td>
</tr>
<tr>
<td></td>
<td>1x LAN 10/100/1000 Mbit/s</td>
</tr>
<tr>
<td></td>
<td>Dual-head graphic *)</td>
</tr>
</tbody>
</table>

**Function cards for SIMATIC Microbox PC 427B/IPC427C:**

<table>
<thead>
<tr>
<th>Bus system</th>
<th>Function card with</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC/104+</td>
<td>2x RS 485</td>
</tr>
<tr>
<td></td>
<td>4x RS 232</td>
</tr>
<tr>
<td></td>
<td>Centralized PC IO peripherals:</td>
</tr>
<tr>
<td></td>
<td>PC IO module interface module for expanding with encoder/counter as well as PC IO digital modules and PC IO analog modules.</td>
</tr>
<tr>
<td></td>
<td>In the maximum configuration this allows the integration of up to 120 analog IO interfaces, 320 digital IO interfaces, and 12 encoder/counter interfaces.</td>
</tr>
</tbody>
</table>

* The PCIe x16 graphics card option for the SIMATIC IPC 547C / 647C / 847C is available using the standard configurator.

*1) Limitations are shown on a sheet enclosed with the product.
Further information

More information on SIMATIC IPCs:  
www.siemens.com/simatic-ipc

The optimum configuration for your application:  
www.siemens.com/ipc-configurator

Online Service Tool PED – for fast information on the equipment of your SIMATIC IPC and the management of your field inventory:  
www.siemens.com/ped

After Sales Information System for SIMATIC IPC:  
www.siemens.com/asis

Information material for download:  
www.siemens.com/simatic/printmaterial

Electronic ordering via the Internet with the Industry Mall:  
www.siemens.com/industrymall

Your personal contact partner is listed at:  
www.siemens.com/automation/partner

For further details, see SIMATIC Guide manuals:  
www.siemens.com/simatic-docu

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