

The background of the entire page is a blurred industrial factory setting. Overlaid on this are several digital elements: a large blue cloud at the top center, a glowing blue cube in the middle with the text 'SIMATIC MANAGING IPC' on its side, and a glowing blue monitor on the right displaying a dashboard with charts and data. Faint, vertical columns of alphanumeric codes (e.g., A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, A49, A50, A51, A52, A53, A54, A55, A56, A57, A58, A59, A60, A61, A62, A63, A64, A65, A66, A67, A68, A69, A70, A71, A72, A73, A74, A75, A76, A77, A78, A79, A80, A81, A82, A83, A84, A85, A86, A87, A88, A89, A90, A91, A92, A93, A94, A95, A96, A97, A98, A99, A100) are visible in the background, suggesting a data-rich environment.

SIEMENS

Ingenuity for life

Industrial PCs for the Digital Factory

Higher performance, quality
and sustainability with
SIMATIC IPC

[siemens.com/ipc](https://www.siemens.com/ipc)

Ready for the Digital Factory

SIMATIC IPC: the platform for production digitization

In manufacturing and production, linking information across all corporate levels increases the demands placed on the computing power, functioning, and availability of industrial PCs. This is a trend that will only intensify with the growth of digitization. According to experts, the volume of digital information will increase tenfold in the next five years, particularly in the area of industrial processes. SIMATIC industrial PCs offer an innovative platform with long-term availability to prepare your machines and plants for the challenges of the Digital Factory.

Do you need to process and edit a large volume of production-related information? Then take advantage of our wide range of products for tasks such as:

- Control and monitoring of control-room processes using Rack PCs and a multimonitor configuration
- Fast and reliable data transfer using a maintenance-free Box PC as a compact gateway to the enterprise cloud
- Powerful data acquisition and machine automation using rugged Box PCs
- Combined monitoring, operation, and PC-based control using Panel PCs
- Mobile data monitoring and acquisition using industrial Tablet PCs



The Perfect Industrial PC for Every Task

The SIMATIC IPC family at a glance

Embedded IPCs



High-end IPCs



Advanced IPCs



Basic IPCs



Operator panels



Device versions



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Always the right configuration for your requirements

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Customized Solution

Always the right configuration for your requirements




















SIMATIC IPCs excel due to the wide range of matched product series that enable you to find the right industrial PC. Select exactly the right configuration. You'll benefit from an optimal price-performance ratio and high investment protection for your application.

You can order over 90 million different configurations in quantities of one or more directly from a catalog. Can't find your IPC? Want to adapt your IPC to your corporate solution visually and/or technically? It's easy with our Express-Design. We're also happy to support you in customizing products and systems based on the SIMATIC standard – precisely tailored to your specific requirements.

The quick and easy way to a suitable system:
TIA Selection Tool

Use the TIA Selection Tool to custom configure your industrial PC. An intelligent wizard helps you select components such as processors, memory, drives, cards, and operating systems. If desired, it will forward you directly to our ordering system – easily, securely, and conveniently.



		Rack PC	Box PC	Panel PC	
Embedded industrial PCs Fanless	 IPC2x7 Compact		 IPC227E	 IPC277E	
	 IPC4x7 Powerful		 IPC427E	 IPC477D/E	
High-end industrial PCs High functionality	 IPC6x7 High performance	 IPC647D	 IPC627D	 IPC677D	Long-term availability of 4–6 years plus 5 years repair and spareparts service
	 IPC8x7 Maximum expandability	 IPC847D	 IPC827D		
Advanced industrial PCs Latest PC technology	 IPC5x7 Maximum performance	 IPC547G			Long-term availability of 2–3 years plus 3 years repair and spareparts service
Basic industrial PCs Attractive price	 IPC3x7 Available ex stock	 IPC347E	 IPC327E	 IPC377E	

Efficient from the Very Start

Integrated engineering with Totally Integrated Automation

The engineering of your automation solution forms the basis for the productivity and efficiency of your processes. It is a central lever for competently mastering the constantly increasing complexity of machines and plants. Make your production faster, more flexible, and more intelligent right from the start with Totally Integrated Automation.

Totally Integrated Automation is our solution that ensures all automation components work perfectly together. The open system architecture covers the entire production process and is completely based on:

- Consistent data management
- International standards
- Uniform hardware and software interfaces

Our SIMATIC IPCs are an integral part of Totally Integrated Automation. They can be configured easily and efficiently using the integrated TIA Portal engineering framework and integrated directly into the automation network. In this way, we minimize engineering effort while you enjoy reduced costs, a shorter time to market, more flexibility, and greater data transparency.



Take advantage of:

- System-tested automation software
- Efficient engineering
- Simple network integration
- Varied networking options



SIMATIC IPC
DiagMonitor

System diagnostics for higher availability

The comprehensive, integrated system diagnostics of SIMATIC IPC DiagMonitor provide detailed information on the system status of our IPCs. They enable you to perform preventive maintenance on your industrial PCs, thus reducing downtimes, improving availability, and as a result, increasing the productivity of your machines and plants.

Quality Guarantees Your Success

Developed and built for industry

With our SIMATIC IPCs, you can count on the highest quality. We designed these devices for reliable continuous operation in an industrial environment. To meet our quality standards from the development process to the product itself, we manufacture the mainboards for increased industrial requirements in state-of-the-art plants in Germany.

When it comes to quality, we leave nothing to chance: starting in the development phase, we focus on the quality design of parts to the selection of components. Production in climate-controlled halls with constant temperature and air humidity, special test procedures, and series-accompanying type tests and trials ensure 100% correct functioning and compliance with all technical specifications. The quality of product packaging is especially high and in compliance with strict shipping guidelines to ensure that the product arrives in perfect condition. We not only comply with the requirements of CE and UL approvals but far exceed them. This is demonstrated by regular inspections of field quality.

In this way, we protect your investments. Because the products also conform to our own Siemens standard SN 36350-1 for environmentally sound product design, we also reduce the environmental impact from production to disposal.

Designed for industry

Experience the multiple-award-winning industrial design of our SIMATIC IPCs:


High resistance to vibration and shock

Rugged enclosures

Suitable for ambient temperatures up to 60°C

Greater system and data availability thanks to redundancy

Power-failure protection for automation solutions with Embedded IPCs



Quality for your industry based on an example from shipbuilding

The SIMATIC IPCs also demonstrate their quality in industries with special requirements. This includes pharmaceutical, oil and gas, and the food and beverage industries with the corresponding certifications. The same applies for the marine industry, where very specific requirements must be met. Our IPCs and operator panels have the necessary approvals even for this complex application. For an overview of all the marine certifications of SIMATIC IPCs, go to support.industry.siemens.com.

		Marine certifications					
		ABS	BV	DNV	GL	LRS	NK
SIMATIC IPC	Box PC (IPC227,IPC427,IPC627,IPC827)	✓	✓	✓	✓	✓	✓
	Panel PC (IPC277,IPC477,panel PC EX)	✓	✓	✓	✓	✓	✓
	Pack PC (IPC647)	✓	✓	✓	✓	✓	✓
	Monitors & thin clients (IFP & ITC(EX))	✓	✓	✓	✓	✓	✓

For Today and Tomorrow

SIMATIC IPCs combine innovation and continuity

With SIMATIC IPCs, you can rely on the highest degree of compatibility and long-term availability. We're constantly developing these devices further to give your investments the best possible protection. As innovations and new generations are introduced, you can continue ordering the previous version from us for at least 6 months. With almost all our solutions, we guarantee availability for 4 to 6 years and a repair and spare-parts service for 5 years. On request, you can also be provided with complete and fully ready-to-run design-freeze systems that are permanently tailored to a specific application. Wherever possible and practical, the new generation of a SIMATIC IPC series is compatible with its predecessors. Our systems feature a high level of image compatibility within each generation, which minimizes adaptation and replacement outlay.

Thanks to such practical, use-oriented innovation management, you benefit from innovations in performance and power consumption and secure your investments for many years to come.

Take advantage of:

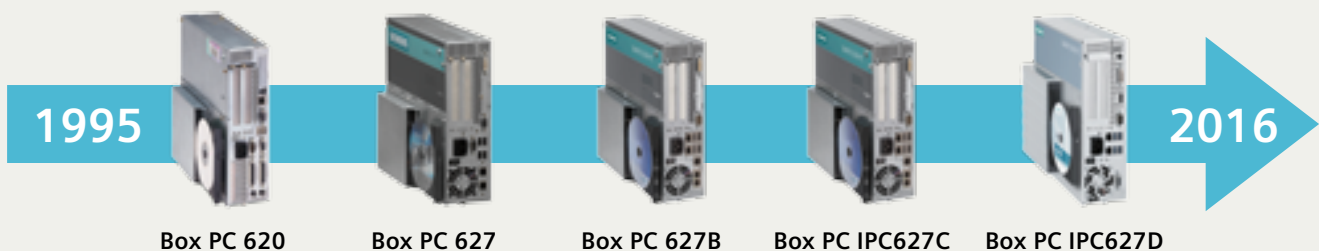
- High investment protection
- Easy and inexpensive modernization
- Simple integration into existing machine concepts



Winner of the RedDot Award for innovative industrial design: SIMATIC IPC547G

Over 20 years of innovation and continuity

SIMATIC IPC627 How we handle innovation and investment protection for our users is demonstrated by the example of our SIMATIC IPC627. Throughout five generations and over a period of more than 20 years, this industrial PC has always combined state-of-the-art technology with a proven design – sustainability in practice.



Fanless and Maintenance-Free

SIMATIC Embedded IPCs

Looking for a compact, fanless industrial PC for use in machines, control enclosures, and control cabinets? Then our SIMATIC Embedded IPCs are right for you. Both the Panel and Box PC, the two series of Embedded IPCs, can be used to perform a variety of tasks directly on the machine or within a process. This includes control and operation, monitoring of machine data, and image processing and are ideal as a data concentrator or gateway. The IPC2x7 and IPC4x7 series each have the same image. Thanks to special components and routines, they're also protected against voltage failure. If the power fails, the data remains consistent and when the computer is restarted all applications are started from a secure image. Because the devices have no fans or batteries, they're virtually maintenance-free and based on components that remain available over the long term. We offer you an availability of 4 to 6 years along with a 5-year spare-parts service.

SIMATIC IPC2x7E: ultracompact

Where space is limited and a compact solution is required, the SIMATIC IPC2x7E series is perfect. The enclosure volume is less than 1 liter. The devices in the series are extremely rugged, can be used at ambient temperatures up to 60°C, and are highly energy saving thanks to special processors.



General features	IPC227E – Nanobox PC – extremely compact, flexible mounting, and dust protection	IPC277E – Nanopanel PC compact with displays from 7”
Operating systems (preinstalled and activated)	Windows Embedded Standard 7 E/P/Windows 7 Ultimate (32 bit/64 bit in each case); Windows 10 IoT Enterprise LTSB 2016	
Processor	Intel Celeron N2930 – 1.83 GHz (2.16 GHz); Intel Celeron N2807 – 1.58 GHz (2.16 GHz)	
SATA HDD, SATA SSD, CFast	HDD 320 GB (IPC227E only); SSD 240/80 GB; CFast up to 16 GB (can be replaced from outside)	
Networking options (onboard)	2 x Gigabit-Ethernet, 1 x PROFINET (real-time via standard Ethernet)	
Expandability with cards	1 x PCIe (optional)	–
Integrated nonvolatile memory	NVRAM 512 KB (optional), of which 128 KB usable for software controller	
Long-term availability		
Availability ¹	4 to 6 years	
Repair and spare parts service	Additional 5 years	
Industrial compatibility		
Shock/vibration	15 g / 1 g	
Ambient temperature during operation	0°C to 60°C	0°C to 50°C

¹ As of start of delivery

SIMATIC IPC4x7E: the little powerhouse

The features that distinguish the SIMATIC IPC4x7E series are a powerful processor technology in a compact, fanless design. Thanks to their flexible storage concepts and varied interfaces, these devices can easily be tailored to special requirements and integrated into your infrastructure.

With SIMATIC Embedded IPCs, you benefit from:

- Virtually no maintenance effort
- Rugged design
- Flexible mounting options and installation positions
- High investment security



IPC427E – Microbox PC
powerful and versatile configuration



IPC477E – Panel PC
versatile configuration, displays from 15"



IPC477D PRO (15"/19"/22")

Windows Embedded Standard 7 (E/P), 32 bit/64 bit; Windows 7 Ultimate, MUI, 64 bit; Windows 10 IoT Enterprise LTSB 2016		Windows 7 Ultimate (Multi Language)/Windows Embedded Standard 7 (32 bit/64 bit in each case)
Intel Celeron G3902E – 1.6 GHz; Intel Core i3 6102E – 1.90 GHz; Intel Core i5-6442EQ – 1.9 GHz (2.7 GHz); Intel Xeon processor E3-1505L v5 – 2.0 GHz (2.8 GHz)		Intel Core i7-3517UE – 1.7 GHz (2.8 GHz), Intel Core i3-3217UE – 1.6 GHz, Intel Celeron 827E – 1.4 GHz
HDD 320 GB, SSD 240/80 GB, 1 x CFast up to 16 GB (can be replaced from outside)		SSD 240/80 GB (Standard)/CFast 2 to 16 GB (internal and external)
3 x Gigabit Ethernet, 1 x PROFINET (real-time via standard Ethernet)		2 x Gigabit-Ethernet, 1 x MPI / PROFIBUS (optional) ² , 1 x PROFINET (3 Ports, optional)
Up to 2 x PCIe (optional)	1 x PCIe (optional)	–
512 KB NVRAM, of which 128 KB usable for software controller		512 KB NVRAM, of which 128 KB usable for software controller
4 to 6 years		4 to 6 years
Additional 5 years		Additional 5 years
15 g / 1 g	5 g / 1 g	5 g / 1 g
0°C to 55°C	0°C to 50°C	5°C to 45°C (up to 40° for i3/i7 processors with SSD)

² only with 19" and 22"

Impressive in Industrial Applications

SIMATIC Embedded IPCs: reliable, flexible, and versatile

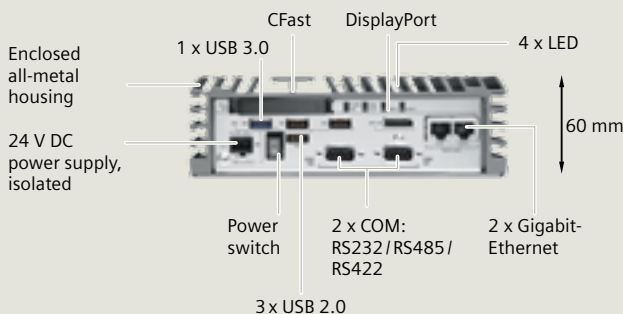
SIMATIC Embedded IPCs are designed for maximum data security. We use a rugged, nonvolatile mass storage device to securely store your data. Special technologies ensure that application data remains consistent even in the event of a power failure. When the IPCs restart, they can immediately resume operation (power-failure protection). Finally, the integrated diagnostic software provides you with detailed information on the status of the storage media and system at all times so that faults can be promptly detected and failures prevented.

Flexible mounting, simple integration

Even when space is limited, SIMATIC Embedded IPCs can be flexibly mounted in control cabinets or directly at the machine. This enables you to take full advantage of the available space. The interfaces are located on the side and easily accessible, making it easy to install and connect the devices. Best of all, you can mount Embedded IPCs on a standard rail in conjunction with a power supply, completely without tools.

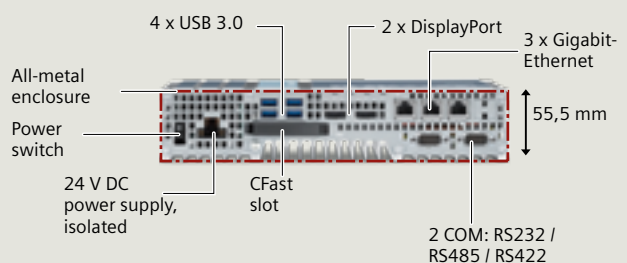
SIMATIC IPC227E/IPC277E: Connections and expansions

IPC227E basic unit



SIMATIC IPC427E / IPC477E: Connections and expansions

IPC427E basic unit



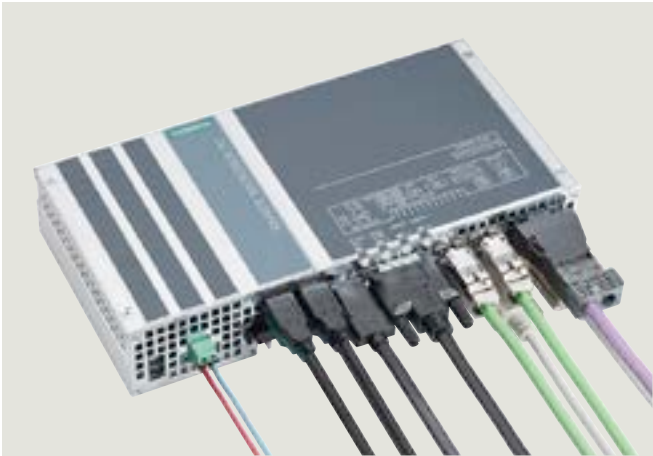
IPC277E basic unit 7"



IPC477E basic unit 15"

From 15" to 22", available as single-touch



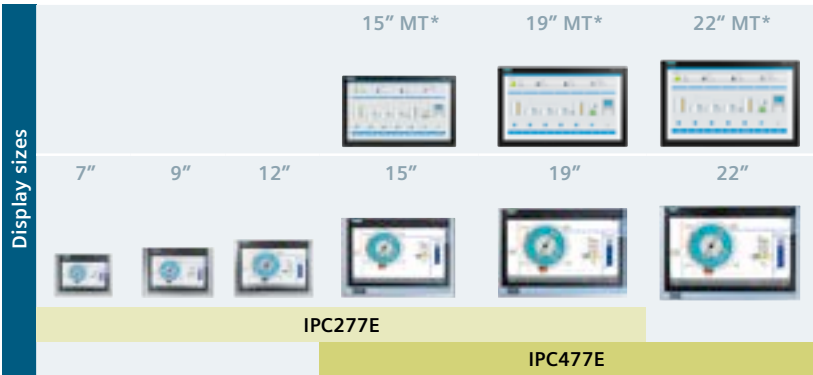


Vertical or horizontal: mounting options

Tool-free mounting on a standard rail	Wall mounting with interfaces above or below	Vertical mounting with an extremely narrow footprint

Everything in a single device: Embedded Panel PCs

SIMATIC Embedded Panel PCs combine an Embedded IPC and an industrial panel in a single device. Depending on the application, you can choose between many different display sizes (7" to 22") with single-touch or multitouch technology and create a powerful, integrated solution for visualization tasks directly on the machine.



Our innovative SIMATIC IPCs are available in numerous versions with different display sizes. Complete bundles with WinCC visualization software preinstalled are also available for our embedded solutions.

* Optional IP65 fully enclosed (IPC477D PRO)



Power for Industry

SIMATIC High-end IPCs

Do you have to process extremely large volumes of data quickly or perform sophisticated visualization tasks? Do you want to expand your individual industrial PC with a number of cards or modules? Our High-end IPCs provide you with the ideal balance between innovative technology, high performance, and superlative investment protection. The devices are available as Rack, Box, or Panel PCs and are intended for use in the control room or as a high-performance, machine-level system in data-intensive processes.

SIMATIC IPC6x7D: high power in a compact design

The SIMATIC IPC6x7D series is impressive for its powerful Intel processors with up to 32 GB RAM and 4 slots for customized expansion in the Rack PC or 2 slots in the Box PC. As Rack PCs, these devices are compact with only two height units. As Panel PCs with an integrated industrial display for single-touch and multitouch operation, they serve as a powerful solution for machine-level operation and automation.

		
General features	IPC647D – Rack PC High performance, functionality, and compactness	IPC847D – Rack PC High performance, functionality, and expandability
Operating systems (preinstalled and activated)	Windows 7 Ultimate (32 / 64 bit); Windows IoT Enterprise LTSC 2015; Windows Server 2008/2012 R2 (64 bit)	
Processor	Intel Xeon E3-1268L v3 – 2.3 GHz (3.3 GHz) Core i5-4570TE – 2.7 GHz (3.3 GHz) Core i3-4330TE – 2.4 GHz	Intel Xeon E3-1275 v3 – 3,5 GHz (3,9 GHz) Intel Xeon E3-1268L v3 – 2,3 GHz (3,3 GHz) Core i5-4570TE – 2,7 GHz (3,3 GHz) Core i3-4330TE – 2,4 GHz
Drives	Internal/removable drive bay: 500 GB; 1 TB; 2 x 1 TB; SSD 240 GB; RAID1: HDD (SAS or SATA) or SSD	Internal/removable drive bay: 500 GB; 1 TB, 2 x 1 TB; SSD 240 GB; RAID1: HDD (SAS or SATA) or SSD; RAID5: HDD (SAS or SATA)
Networking options (onboard)	2 x Gigabit Ethernet, 1 x PROFINET 3 ports optional, 1 x PROFIBUS/MPI optional	
Expandability with cards	4 x PCI Express x 16 or 2 x PCI; 2 x PCIe x 16	7 x PCI, 1 x PCI Express x 16, 3 x PCI Express x 4 or 3 x PCI, 5 x PCI Express x 16, 3 x PCI Express x 4
Integrated nonvolatile memory	–	
Long-term availability		
Availability ¹	4 to 6 years	
Repair/spare-parts service	Additional 5 years	
Industrial compatibility		
Shock/vibration	5 g / 0,5 g	
Ambient temperature	During operation: 5°C to 50°C	

¹ As of start of delivery

SIMATIC IPC8x7D: flexibly expandable

Where expandability is as important as performance, our SIMATIC IPC8x7D with up to 11 spare slots and numerous interfaces is just what you need. Design your customized system, all the way to sophisticated industrial server applications with powerful Intel processors and a RAID5 storage configuration.

With SIMATIC High-end IPCs, you benefit from:

- High performance and fast system response
- Extreme expandability through PCI Express slots
- Uniform platform with identical features
- Maximum system availability and data security
- Excellent energy efficiency
- Extremely easy servicing



IPC627D – Box PC
High performance,
functionality,
and compactness



IPC827D – Box PC
High performance,
functionality,
and expandability



IPC677D – Panel PC
High performance and functionality
with single-touch and multitouch displays
from 15"

Windows 7 Ultimate (32 / 64 bit)

Intel Xeon E3-1269L v3 – 2,3 GHz (3,3 GHz)
Core i3-4330TE – 2,4 GHz
Celeron G1820TE – 2,2 GHz

None; 250 GB; 500 GB; SSD 240 GB;
RAID1: HDD

2 x Gigabit Ethernet;
1 x PROFINET (3 Ports) optional; 1 x PROFIBUS/MPI optional

2 x PCI
or
1 x PCIe x 16, 1 x PCI
or
1 x PCIe x 16, 1 x PCIe x 4

3 x PCI, 1 x PCIe x 16 and
1 x PCIe x 4

2 x PCI
or
1 x PCIe x 16, 1 x PCI
or
1 x PCIe x 16, 1 x PCIe x 4

Battery-backed SRAM 2 MB, of which 128 KB can be used for software controller

4 to 6 years

Additional 5 years

5 g / 1 g

During operation: 5°C to 55°C

All-Round Powerhouse

SIMATIC High-end IPCs: platform for higher performance, availability, and efficiency

Our SIMATIC High-end IPCs feature the highest performance and an extremely fast system response. Powerful Intel processors up to Intel Xeon and fast onboard HD graphics handle even the most demanding tasks with ease. Thanks to PCI Express x 16 and USB 3.0, the device can communicate with external cards and media while the integrated Gigabit Ethernet ports permit the high-speed transfer of large volumes of data.

Extreme ruggedness and long-term availability

Whether as a Rack PC for the control room or a Box PC for use in a control cabinet or at the machine, with our High-end IPCs you can count on a rugged, future-proof platform for the industrial environment. The devices feature high installation, interface, and software compatibility. The High-end IPCs can also be optionally equipped with a PROFIBUS or PROFINET interface with three ports for communicating with manufacturing and production systems.

Special features of the SIMATIC Rack PCs

State-of-the-art, high-quality industrial design

- Vibration-/shock-absorbing hard-disk holders
- Reliable dust protection and low noise due to fan-controlled overpressure ventilation
- Painted enclosure for increased corrosion protection



Easy services

- Front fan can be replaced without tools
- Enclosure can be quickly opened with the removal of one screw
- Hard disks and power supply can be replaced during operation



High level of security

- Lockable front door protects front drives, on/off button, and reset button from misuse
- USB flash drive can be operated while the front door is locked
- Additional internal USB interface for protection against unauthorized removal of USB flash drives (e.g. for software dongles)



Industrial server functionality

- Integrated UPS
- Hardware RAID
- Controller and SAS hard disks



Efficient self-diagnostics

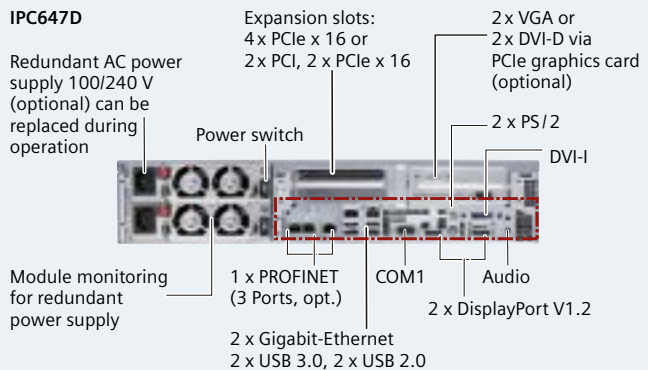
Front LED display e.g. for simple identification of a faulty hard disk in the RAID group by HDD1, HDD2, or HDD3 ALARM (IPC847D), for example

Multimonitoring

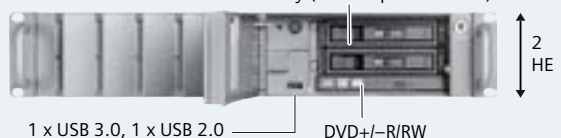
Up to 5 monitors – via optional PCI Express x 16 graphics card and onboard graphics

SIMATIC IPC647D/IPC847D: Connections and expansions

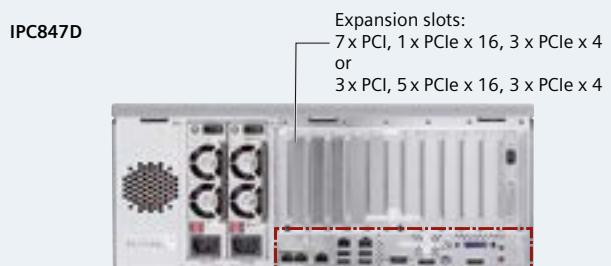
IPC647D



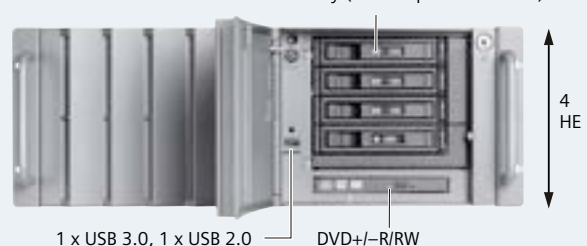
SATA-hard-disk removable drive bay (hot swap with RAID1)



IPC847D



SATA/SAS-hard-disk removable drive bay (hot swap with RAID1/5)



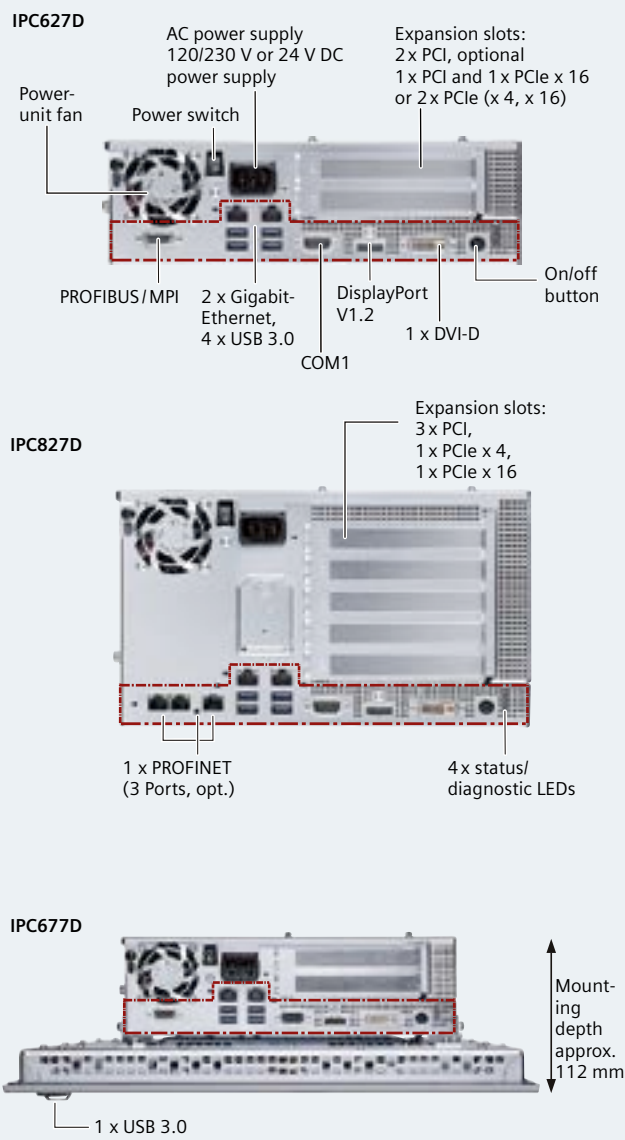
Maximum system availability and data security

Due to their high-quality industrial design with vibration-/ shock-absorbing hard-disk holders, these devices are ideally suited for continuous use in an industrial environment. Rugged storage technologies protect you against data loss, and you can configure the systems with redundant components if needed. To protect your data from the outside, we support secure remote access with our SIMATIC IPC Remote Manager.

High energy efficiency

Lots of power, low consumption: thanks to the latest processor technology, our High-end IPCs use very little energy. Using Wake-on-LAN, you can easily start up the computer via the network – for example, after a weekend shutdown.

IPC627D/IPC827D/IPC677D: Connections and expansions



Special features of IPC627D/IPC827D/IPC677D



Fast replacement of the CMOS battery (even when installed) thanks to externally accessible battery compartment



Fast diagnosis of the operating state and display of the BIOS start procedure by four status and signaling LEDs:

- 1 x LED: BIOS
- 2 x LEDs: User/WinAC RTX
- 1 x LED: WinAC RTX



The SIMATIC IPC677D is available as a single-touch or multitouch device

¹ On Rack PC ² With Intel Core i7/i5

Latest PC Technology for Production

SIMATIC Advanced IPCs

SIMATIC Advanced IPCs are extremely powerful and flexible Rack PCs that combine the latest processor technology with an innovative industrial design. The SIMATIC IPC547G, which won the Red Dot Award 2016 in the Product Design category, is ideal as a workstation or server in industrial applications such as image processing or as a reliable platform for SCADA systems. It supports multimonitoring with up to 5 monitors and demonstrates extreme flexibility in terms of expansions. With our specially designed innovation management system, we guarantee you 2 to 3 years of availability with an additional 3 year spare-parts and repair service.



reddot design award
winner 2016

With SIMATIC Advanced IPCs, you benefit from:

- Maximum performance with 6th generation Intel Xeon and Core-i processors, up to 64 GB DDR4 work memory, and numerous state-of-the-art interfaces
- High data availability with hot spare HDD and RAID1 or RAID5 support
- Excellent security thanks to lockable front door and access-protected USB ports
- Optimal servicing convenience thanks to a sophisticated design
- High availability through a redundant power supply and integrated system diagnostics



General features	IPC547G – Rack PC latest technology and maximum performance
Operating systems (preinstalled and activated)	Windows 7 Ultimate (64 bit); Windows 10 IoT Enterprise LTSB 2015 (64 bit) Windows Server 2008/2012 R2 (64 bit)
Processor	Intel Core i5-4570S; up to 3.6 GHz series Intel Pentium Dual Core G3420; 3.2 GHz
Drive	Internal/removable drive bay*: 1 TB; 2 x 1 TB; SSD 240 GB; SSD 480 GB; 2 x SSD 480 GB; RAID1: HDD or SSD; RAID5: HDD*
Networking options (onboard)	2 x Gigabit-Ethernet
Expandable with cards	2 x PCI; 2 x PCIe x 16; 1 x PCIe x 8; 2 x PCIe x 4
Long-term availability	
Availability ¹	2 to 3 years
Repair and spare-parts service	Additional 3 years
Industrial compatibility	
Shock/vibration	1 g/0.2 g
Ambient temperature during operation	0°C to 40°C

* Not with short enclosure

Special features of IPC547G



Maximum data availability
with hot spare HDD and
RAID1 or RAID5 support



Maximum system availability thanks
to redundant power supply



High level of security

- Lockable front door
- Two USB 3.0 interfaces on the front usable with the door shut and one internal USB interface for the access-protected use of USB mass storage



Easy servicing

- Front fan can be replaced without tools
- Enclosure can be quickly opened with the removal of one screw
- Hard disks and power supply unit can be replaced during operation

¹ As of start of delivery

Just what you need

SIMATIC Basic IPCs

You are looking for a robust, uncomplicated industrial PC for the acquisition and networking of production and energy data in production as well as in industry-related environments, for example at assembly workstations, in warehouses and logistics, or laboratory automation? Then the SIMATIC Basic IPCs are just what you need.

With the SIMATIC Basic IPCs, you will benefit from

- Industrial functionality at an attractive price
- State-of-the-art PC technology
- Multifaceted interfaces for easy integration into new and existing systems
- Variants available off the shelf for short delivery times

Pre-configured and immediately available

Our SIMATIC Basic IPCs make things easy for you: The elaborate configurations combine current PC technology, multifaceted interfaces, and an industry-standard design into a compelling and robust complete package. All of the variants are now available off the shelf, which means that you receive a turnkey, run-in tested system that meets your requirements without a great deal of effort. Furthermore, they can easily be integrated even into existing plants or plant concepts.



General features	IPC347E – Rack PC ideal entry-level device in a rugged metal enclosure	IPC327E – Box PC fanless and in compact box design	IPC377E – Panel PC long-lasting, robust single-touch display with glass front
Operating systems (preinstalled and activated)	Windows 7 Ultimate (64 Bit)	Windows 7 Ultimate (64 Bit)	Windows 7 Ultimate (64 Bit)
Processor	Intel Core i5-4570S; up to 3.6 GHz series Intel Pentium Dual Core G3420; 3.2 GHz	Intel Celeron Quad Core N3160 (4C/4T, 1.6 GHz, up to 2.24 GHz, 2 MB Cache)	Intel Celeron Quad Core N3160 (4C/4T, 1.6 GHz, up to 2.24 GHz, 2 MB Cache)
Drive	500 GB / 1 TB	500 GB HDD	500 GB HDD
Networking options (onboard)	2 x Gigabit-Ethernet	2 x Gigabit-Ethernet	2 x Gigabit-Ethernet
Expandable with cards	4 x PCI; 1 x PCIe x 16; 1 x PCIe x 8, 1 x PCIe x 1 (all 312 mm)	1x mPCIe (half-size)	1x mPCIe (half-size)
Long-term availability			
Availability ¹	2 to 3 years	2 to 3 years	2 to 3 years
Repair and spare-parts service	Additional 3 years	Additional 3 years	Additional 3 years
Industrial compatibility			
Shock/vibration	Not specified	Tested acc. IEC 60068-2-27, with HDD:1 g Tested acc. IEC 60068-2-6, with HDD and Wall mounting: 0.5 g	Tested acc. IEC 60068-2-27, with HDD:1 g Tested acc. IEC 60068-2-6, with HDD and Wall mounting: 0.5 g
Ambient temperature during operation	5 ... 40 °C at full processor power	0 ... 40°C for 10 W USB load and at full processor power	0 ... 40°C at full processor power

¹ As of start of delivery

On-site with Everything in View

Industrial Flat Panels, Thin Clients, and Tablet PCs

Wherever you require fast access to information and data in an extensive or distributed network, our industrial monitors and Thin Clients are right at home. When conditions get a little harsh, these devices are also available with all-round IP65 protection. Want even more mobility? No problem: take along our industrial Tablet PC, which concentrates our industrial PC expertise in a convenient tablet format.

With our Industrial Flat Panels, Thin Clients, and Tablet PCs, you benefit from:

- Rugged design for industrial applications
- Flexible mounting options for stationary devices
- Brilliant displays with innovative operating concepts
- Components available over the long term
- Ergonomic operation in an industrial environment

Industrial Flat Panel SIMATIC IFP: fast access on-site





Our SIMATIC IFP series excels due to its brilliant industrial displays measuring 12", 15", 19", and 22" with single-touch or multitouch operation. These devices are intended for use as stationary display units at distances of up to 30 m (display port) or at a practically unlimited distance (Ethernet port) from the PC.

Industrial Thin Clients SIMATIC ITC: for client-server architectures

If you're looking for a powerful operator panel for distributed HMI solutions, our SIMATIC ITC devices are right for you. They also have brilliant industrial displays measuring 12", 15", 19", and 22" and, with an Ethernet port, can be used almost anywhere. The Thin Clients are also available in a stand-alone version, or you can flexibly combine them with other systems.

Industrial Tablet PC: handy companion to industry

Our industrial Tablet PC is an extraordinarily powerful tablet PC with a 10" display for industrial applications. In it, we've combined everything that an industrial PC needs. This includes a rugged industrial design, sophisticated interfaces for optimal compatibility, and components with long-term availability so that you can not only customize the configuration of your Industrial Tablet PC but can also continue to use it for many years.

					
		Built-in units	All-round IP65 protection	IP66K	Mobile Geräte
Central-ized	IPC277E	7"–19"		19"	
	IPC477D / IPC477E	12"–22"	15"–22"		
	IPC677D	15"–22"			
Distrib-uted	IFP up to 5 m	12"–22"			
	IFP up to 30 m	12"–22"	19"–22"		
	IFP up to 100 m/unlimited	19"–22"		19"	
	ITC up to 100 m/unlimited	12"–22"	15"–19" (4:3)	19"	
	Industrial Tablet PC				10"

Ergonomic Operation

Fast, intuitive operator panels with glass fronts

With their narrow frame and large display area, our monitors and panels not only look good but they also support efficient, fatigue-free, ergonomic operation. The industrial nonglare glass fronts are scratchproof and resistant to chemicals and have a circumferential metal frame to prevent damage. Via a projected-capacitive touch display, you can access your data quickly and intuitively based on gestures. For special commands, we also support two-hand operation as an additional security feature. The devices are also intelligent. They automatically detect inadvertent operation – for example, catching the screen with the ball of the hand or the buildup of dirt on the panel surface.

When operating your processes, take advantage of:

- Sharp, high-contrast image display with uniform brightness for better legibility
- Backlit LED display, dimmable from 0% to 100
- Multitouch operation with intelligent fault detection
- Reliability and a long service life
- Extraordinary software support: individual programming, SIMATIC TIA Portal from V13, SIMATIC WinCC from V7.2, SIMATIC WinCC OA from V3.13



Tailored to Your Application

Device versions for special requirements

To meet special ruggedness, security, or hygiene requirements, we also offer our SIMATIC IPCs from a catalog in numerous versions, made from special materials, and with various degrees of protection and special certifications. Can't find your application? At your request, we'll develop and build an entirely customized system according to your specifications.

IP65

PRO – for all-round protection

The completely IP65-protected PRO devices and their expansion modules permit flexible operation mounted on a support bracket or stand. The back cover can easily be removed from the installed device – for example, to facilitate memory-card replacement. The PRO devices are available as flat-panel monitors and embedded panel PCs with various functionalities.



SIMATIC IFP1900 PRO / IFP2200 PRO and SIMATIC IPC477D PRO
15"/19"/22" for mounting on stands and support arms;
Extension units optional in 12"-22"

With the PRO devices, you benefit from:

- Mounting outside a control cabinet thanks to all-round IP65 protection
- Service-friendly design
- Easy assembly and cabling using standard connectors
- Modern, slim design with a completely scratchproof glass front
- Intuitive multitouch operation
- Extension units (optional) for an easy operation via emergency stop, selector switch, pushbutton, key switch, signal lamps or radio frequency identification (RFID) readers. They can be freely configured and upgraded, are easy to customize, and provide maximum flexibility.

¹ configuration example

INOX

INOX – for hygienic production

Our INOX versions meet the hygiene requirements of applications in the pharmaceutical, fine chemical, and food and beverage industries. These certified, stainless-steel devices with a smooth, splinter-proof surface are in accordance with the degree of protection of IP66K and are available as a 19" IPC277E Panel PC or IFP1900 with an Ethernet interface.



SIMATIC 19" IPC277E INOX PRO
for special hygiene requirements

With the INOX devices, you benefit from:

- Superior hygiene thanks to all-round IP66K-protected operator panels in stainless-steel enclosures, flush-fitting front design, and food-standard seals
- Flexible mounting options outside the control cabinet through mounting on support arms or stands



Ex versions: for the really hard cases

The all-round IP66-protected operator panels for hazardous areas can be used in Ex Zones 1/21 and 2/22 without implementing any special measures, such as an expensive enclosure or additional certifications. They are specially designed for applications in the chemical, oil & gas, and marine industries. Four different mounting types can be ordered directly via the configurator and additional equipment options selected, including an additional camera, Bluetooth, wireless functionality, and an internal RFID reader.



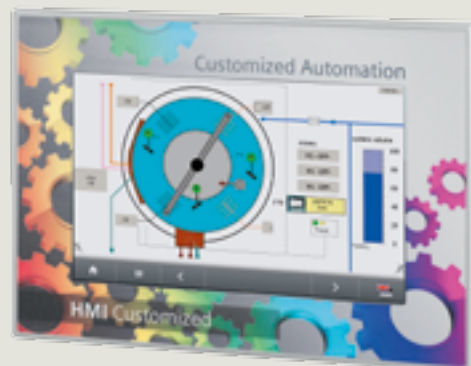
The SIMATIC HMI Panel PC Ex is available as a 22" (16:9) or 15" (4:3) version.

With the Ex devices, you benefit from:

- Simple operation of the capacitive touch display (multitouch)
- Ergonomic operation even in direct sunlight thanks to a special display (1,000 cd/m²) for a view that is virtually glare-free
- High performance capability due to high-speed Intel Core-i7 multicore processor
- Large work memory and data memory (up to 8 GB RAM and 300 GB SSD)

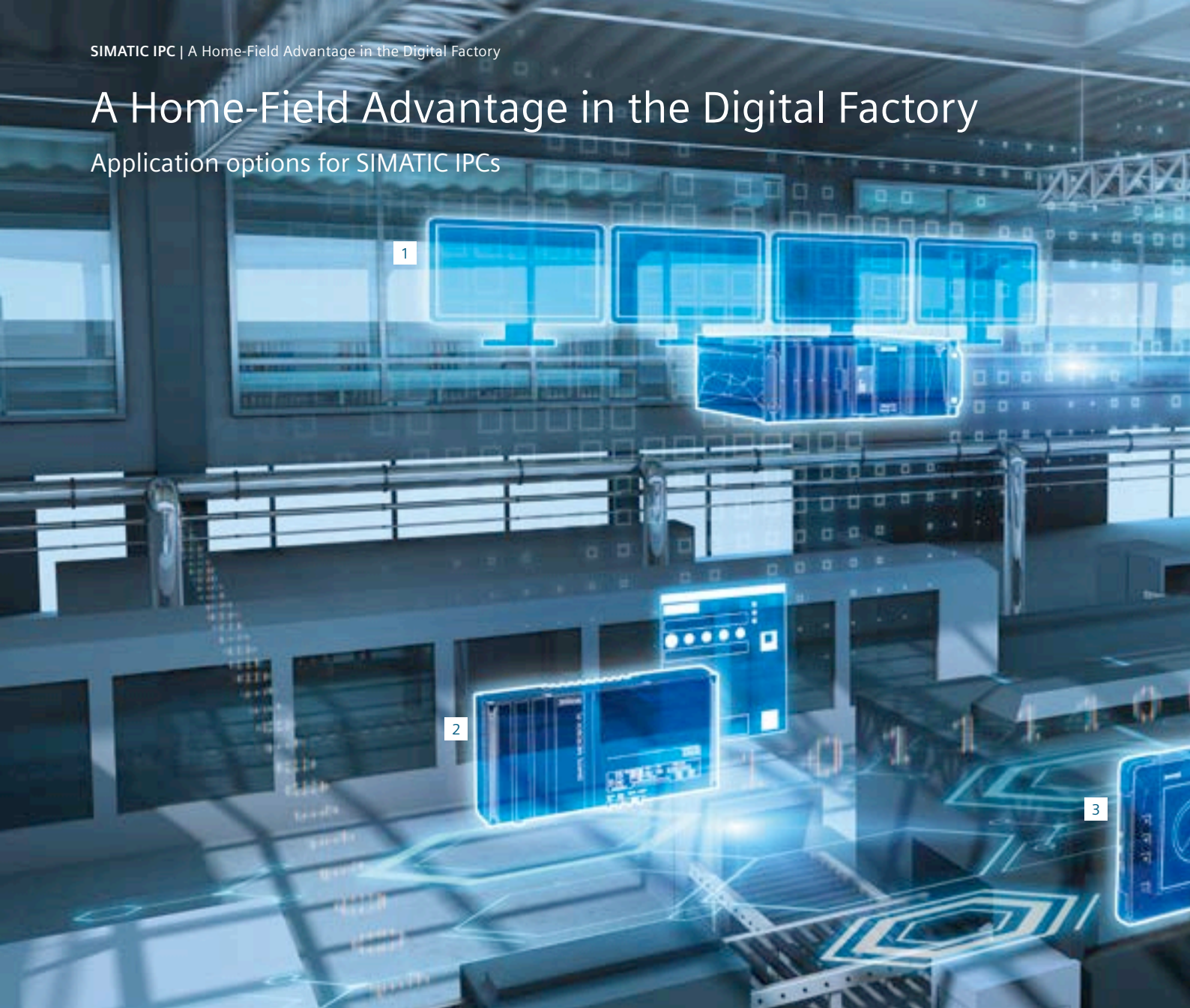
Individual SIMATIC IPCs: an offer that leaves nothing to be desired

If your requirements are even more specialized and cannot be fully met with our standard devices, we will assemble your device with Customized Automation. You'll also receive, among other things, individually designed panel fronts in just a few business days, including when small quantities are ordered.



A Home-Field Advantage in the Digital Factory

Application options for SIMATIC IPCs



1 Perfect interaction with SCADA software

- System-tested components reduce testing, validation, and integration overhead and shorten the time to market
- Redundancy (hard disks, servers, and integrated UPSs) guarantee high system and data availability
- Intelligent diagnostics reduce downtime and permit preventive maintenance
- Attractive complete package reduces the total cost of ownership

[siemens.com/scada](https://www.siemens.com/scada)

2 SIMATIC IPC and S7-1500 Software Controller for innovative control solutions

- High system availability because it's not dependent on the operating system
- Fail-safe control thanks to Safety Integrated
- High level of security through know-how protection and access protection with Security Integrated
- User-friendly engineering in the TIA Portal
- Simple implementation of interfaces with PC applications
- Integration of real-time-capable, high-level language code

[siemens.com/software-controller](https://www.siemens.com/software-controller)

3 Industrial Tablet PC for mobile applications

- Ideal platform for acquiring, processing, and transferring data in accordance with specific commercial requirements
- Supports sequences in production, warehousing, plant maintenance, and field service
- High availability thanks to Remote Manager and integrated diagnostics

[siemens.com/itp1000](https://www.siemens.com/itp1000)



4 SIMATIC WinCC Runtime Advanced visualization software

- PC-based control and monitoring solution for stand-alone systems at the machine level
- Basic package for visualization, reporting, and logging, and user management, flexibly expandable through VB scripts
- Expanded service concepts with remote operation, diagnosis, and administration via intranet and Internet in combination with e-mail communication

[siemens.com/wincc](https://www.siemens.com/wincc)

5 Industrial image processing for optimal processes

- Powerful, reliable hardware
- High-performance quality inspection, machine operation, parts identification, process control, and code reading
- Flexible expansion options

[siemens.com/ipc847d](https://www.siemens.com/ipc847d)

6 Networking production with the digital world

- Open platform for acquiring, processing, and transferring production data to the cloud or in-house IT
- Rugged, maintenance-free gateways
- Reliable industrial servers

[siemens.com/ipc227e](https://www.siemens.com/ipc227e)

[siemens.com/iot2000](https://www.siemens.com/iot2000)

Successful Applications

SIMATIC IPCs: examples of concrete applications

Optimized usability in the pharmaceutical industry



As a specialist in tablet presses, Korsch AG serves customers worldwide. Our innovative machines and concepts enable Korsch to adapt perfectly to customers' individual wishes. To gain an additional competitive advantage in the area of design and usability, Korsch is collaborating with Siemens and CaderaDesign. Sophisticated, innovative operation with gestures and a powerful automation and visualization solution ensure fast, efficient, secure operation and significantly reduce training effort.

Control system optimizes the productivity of a hot-dip galvanizing plant



Hot Dip Galvanizing Plant 2 at Thyssenkrupp Steel Europe was modernized with a new control system. Based on a SIMATIC IPC and using the SIMATIC WinCC SCADA system, the SIMATIC Process Historian, and SIMATIC Thin Clients for visualization in the plant, the Siemens Solution Partner designed an innovative and future-oriented solution characterized by high availability and data security, thus improving the performance and process safety of the entire plant.

PC-based automation solution supports research



The Laboratory for Materials and Joining Technology at the University of Paderborn in Germany is researching innovative joining technologies in the lightweight construction sector. Among other things, researchers are using a complete, multifunctional, robot-based joining cell in which various joining techniques can be investigated in a realistic production environment. Large volumes of data must be acquired, processed, and visualized during the experiments – a task handled by a SIMATIC IPC. The system has sufficient power reserves for future research and is easy to program and expand.

Machine-data acquisition



AGCO GmbH, one of the largest manufacturers and suppliers of tractors and farm machinery worldwide, offers high-tech solutions for agriculture. To facilitate more economical production processes with reduced consumption of resources, centralized and consistent end-to-end machine data acquisition has been introduced by means of panel PCs with all-round protection. Simple retrofitting of the panel PCs directly into the production plant on a stand meant that there was no need for the additional installation of a control desk, thus reducing costs even further.

Retrofitting for high performance and precision



Heinrich Kuper GmbH & Co. KG, a global player in the woodworking and plastics processing industry, is a specialist in retrofitting older machines. New automation and safety engineering with a fail-safe software controller on a maintenance-free embedded PC multiplied the performance and precision of a customer's plant, as well as providing an integrated diagnostics capability. The control cabinet size was reduced by 20 percent and wiring by 50 percent, and machine downtimes were also shortened.

Control and monitoring of wind turbine generator systems



Siemens turbines for offshore wind farms feature technical characteristics that ensure long-term, low-maintenance operation. Rugged box PCs in a shock- and vibration-proof, all-metal enclosure with high electromagnetic compatibility ensure safe 24-hour continuous operation at ambient temperatures up to 55°C. RAID1 mirror-disk systems have been selected to provide a high level of data security. International standards, CE and UL certification, and worldwide servicing ensure global use.

More references are available online:

[▶ siemens.com/automation/references](https://www.siemens.com/automation/references)

Always by Your Side

Service and support for SIMATIC IPCs

SIMATIC IPCs are designed to operate reliably around the clock, 365 days a year. To keep them running for many years to come, we have established an appropriate service and support concept for fast and efficient assistance – and not just in the event of faults.

Global online support

Whether it's important technical documentation, comprehensive FAQs, tools and downloads, or newsletters, we provide you with quick assistance and support around the clock via the Internet with comprehensive expertise covering all sectors and application areas of SIMATIC IPCs.

Online Support app

With the Online Support app, you have access to more than 300,000 documents, anytime and anywhere. Whether you have problems during the implementation of a project, need help troubleshooting, or want to expand your system or plan a new plant, we are here for you.

PED (Product Equipment Data) service tool

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

SIMATIC hotline

The SIMATIC hotline is available by phone 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, enabling them to assist you even with difficult cases.

Repair and service

Siemens has 36 repair centers in 29 countries and subsidiaries in 190 countries. As a user, you're thus provided with maximum qualified support from PC repairs in our Repair Centers to on-site servicing.

Project support

When you need support for the dimensioning and options of a PC-based automation project, or even for engineering, our specialists in the PC-based Competence Centers in Italy, Germany, and China offer you expert assistance.

There's more to it:

[siemens.com/pc-based-automation](https://www.siemens.com/pc-based-automation)

[siemens.com/online-support](https://www.siemens.com/online-support)

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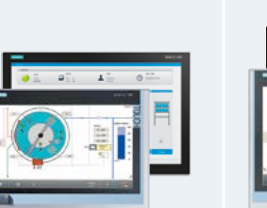


The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.











Siemens offers automation and drive products with Industrial Security functions that support the safe operation of the plant or machine. They are an important component in a holistic Industrial Security concept. With this in mind, our products undergo continuous development. We therefore recommend that you keep yourself informed with respect to our product updates and only use the respective current versions. Further information can be found at: <http://support.automation.siemens.com>. There you can also register for a product-specific newsletter.

To ensure the secure operation of a plant or machine, it is also necessary to take suitable preventive action (e.g. cell protection concept) and to integrate the automation and drive components into a state-of-the-art holistic industrial security concept for the entire plant or machine. Third-party products that may be in use must also be taken into account. More detailed information can be found at: www.siemens.com/industrialsecurity



SIMATIC Embedded IPC													
	SIMATIC IPC227E		SIMATIC IPC277E				SIMATIC IPC427E	SIMATIC IPC477E					
													
General features	Box PC	Panel PC, 7\" Touch	Panel PC, 9\" Touch	Panel PC, 12\" Touch	Panel PC, 15\" Touch	Panel PC, 19\" Touch	Box PC	Panel PC, 15\" Touch	Panel PC, 19\" Touch	Panel PC, 22\" Touch	General features		
Resolution in pixels	–	widescreen (800 x 480)	widescreen (800 x 480)	widescreen (1280 x 800)	widescreen (1366 x 768)	widescreen (1366 x 768)	–	widescreen (1280 x 800)	widescreen (1366 x 768)	widescreen (1920 x 1080)	Resolution in pixels		
Processor	Intel Celeron N2807 (2C/2T, 1.58 (2.16) GHz, 1 MB cache, VT-x); Intel Celeron N2930 (4C/4T, 1.83 (2.16) GHz, 2 MB cache, VT-x)							Intel Celeron G3902E (2C/2T, 1.6 GHz, 2 MB cache); Intel Core i3 6102E (2C/4T, 1.90 GHz, 3 MB cache); Intel Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB cache); Intel Xeon Processor E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB cache)				Processor	
Main memory	2 GB, 4 GB or 8 GB; 512 KB NVRAM optional							4 GB, 8 GB or 16 GB; 512 KByte NVRAM optional				Main memory	
Free expansion slots	1 x PCIe (optional) max. 5 W	–						Up to 2 x PCIe cards (optional); (1 x PCIe x 4 and 1 x PCIe x 1); max. 6 W / 12 W	Up to 1 x PCIe card (optional); (1 x PCIe x 4); max. 6 W				Free expansion slots
Operating systems (preinstalled and activated)	Windows Embedded Standard 7 (E/P), 32-bit/64-bit; Windows 7 Ultimate MUI ¹⁾ , 32-bit/64-bit							Windows Embedded Standard 7 (E/P), 32-bit/64-bit; Windows 7 Ultimate, MUI ¹⁾ , 64-bit; Windows 10 IoT Enterprise				Operating systems (preinstalled and activated)	
Packages / bundles	Packages with WinCC RT Advanced, WinCC V7 and WinAC RTX (F)							Packages with WinCC RT V7, WinCC RT Professional, WinCC RT Advanced, SIMATIC Software Controller				Packages / bundles	
Power supply max. power consumption	24 V DC; 20.4 ... 28.8 V; isolated / max. 10 ms (in acc. with NAMUR); On/Off switch							24 V DC; 19.2 ... 28.8 V; isolated / max. 15 ms (in acc. with NAMUR); On/Off switch	24 V DC; 19.2 ... 28.8 V; isolated / max. 20 ms (in accordance with NAMUR); or 100–240 V AC, 50 / 60 Hz; On/Off switch				Power supply / max. power consumption
MTBF backlighting	–	Up to 80,000 h ²⁾ ; dimmable from 0 to 100%				Up to 50,000 h ²⁾	–	Up to 80,000 h ²⁾ ; dimmable from 0 to 100%	Up to 50,000 h ²⁾ ; dimmable from 0 to 100%	Up to 30,000 h ²⁾ ; dimmable from 0 to 100%	MTBF backlighting		
Drives													Drives
Mass storage	CFast up to 16 GB (with external access); SSD 80/160 GB; HDD 320 GB (IPC227E only)							CFast up to 32 GB (with external access); SSD 80 / 160 GB; HDD 320 GB				Mass storage	
Optical drives	–							–	Can optionally be connected through ext. drive via USB				Optical drives
Interfaces													Interfaces
Fieldbus	PROFINET RT via Ethernet							PROFINET RT via Ethernet				Fieldbus	
Ethernet	2 x 10/100/1000 Mbps (RJ45); teaming							3 x 10/100/1000 Mbps (RJ45); teaming				Ethernet	
USB	1 x USB 3.0, 3 x USB 2.0	Rear: 1 x USB 3.0, 2 x USB 2.0		Rear: 1 x USB 3.0, 3 x USB 2.0		Rear: 1 x USB 3.0, 3 x USB 2.0; front: USB 2.0 (Singletouch exclusive)		4 x USB 3.0	Rear: 4 x USB 3.0; Front: 1 x USB 3.0 (Singletouch exclusive)			USB	
Seriell / parallel	2 x RS 232 / RS 485 / RS 422 switchable in BIOS, optional	1 x RS 232 / RS 485 / RS 422 switchable in BIOS					2 x RS 232 / RS 485 / RS 422 switchable in the BIOS, optional					Seriell / parallel	
Graphics interface	1 x DisplayPort							2 x DisplayPort				Graphics interface	
Monitoring / diagnostics functions													Monitoring / diagnostics functions
Basic functionality	Temperature; watchdog; HDD; CFast; SSD; CMOS battery (alarm locally by means of SIMATIC IPC DiagBase software)							Temperature; watchdog; HDD; CFast; SSD; CMOS battery (alarm locally by means of SIMATIC IPC DiagBase software)				Basic functionality	
Advanced functions / remote access	System monitoring: Operating hours counter for preventive maintenance, maintenance mode, networking (LAN), SNMP and OPC interface (optionally via SIMATIC IPC DiagMonitor software)							System monitoring: Operating hours counter for preventive maintenance, maintenance mode, networking (LAN), SNMP and OPC interface (optionally via SIMATIC IPC DiagMonitor software) / remote access via Intel AMT Core i5 or higher and via SIMATIC IPC Remote Manager				Advanced functions / remote access	
Ambient conditions													Ambient conditions
Degree of protection / EMC	Enclosure according to IP40 / EN 55022B; EN 61000-6-3; EN 61000-6-4; FCC A	IP65 (front) / EN 55022A; EN 61000-6-3; EN 61000-6-2; FCC A					IP20 in accordance with IEC 60529 / EN 61000-6-3; EN 61000-6-4; CISPR220 Class B; FCC Class A	IP65 (at the front) in accordance with IEC 60529 / EN 61000-6-4; CISPR220 Class B; FCC Class A; IP20 (at the rear)				Degree of protection / EMC	
Vibration during operation ³⁾	10 ... 58 Hz: 0.0375 mm; 58 ... 200 Hz: 9.8 ml/s ² (approx. 1 g) when operated with CFast / SSD		50 ml/s ² ; 30 ms (approx. 5 g) when operated with CFast / SSD					150 ml/s ² ; 11 ms (approx. 15 g) when operated with CFast / SSD	5 ... 9 Hz: 3.5 mm; 9 ... 500 Hz: 9.8 ml/s ² (approx. 1 g) when operated with CFast / SSD				Vibration during operation ³⁾
Shock load during operation ⁴⁾	150 ml/s ² ; 30 ms (approx. 15 g) when operated with CFast / SSD	50 ml/s ² ; 30 ms (approx. 5 g) when operated with CFast / SSD					150 ml/s ² ; 11 ms (approx. 15 g) when operated with CFast / SSD	50 ml/s ² ; 30 ms (approx. 5 g) when operated with CFast / SSD				Shock load during operation ⁴⁾	
Relative humidity ⁵⁾	5 to 85% (CFast / SSD); up to 80% (HDD) (no cond.)	5 to 85% at 25 °C (no condensation)					Up to 80% at 25 °C (no condensation)	Up to 85% at 30 °C (no condensation)				Relative humidity ⁵⁾	
Ambient temperature in continuous operation at full processor load	0 ... 60 °C	0 ... 50 °C			0 ... 45 °C			0 to 50 °C	0 to 45 °C		0 to 45 °C	Ambient temperature in continuous operation at full processor load	
Certification / EU directives	CE; cULus (508); shipbuilding approvals ⁶⁾ ; WEEE / RoHS; C-Tick	CE; cULus (508); shipbuilding approvals for 7\"/9\"/12\" ²⁾ + WEEE / RoHS; C-Tick					CE; cULus (508); ATEX / IECEx Cat 3G Zone 2, shipbuilding approvals ⁶⁾ ; WEEE / RoHS; C-Tick	CE; cULus (508); WEEE / RoHS; C-Tick				Certification / EU directives	
Dimensions													Dimensions
Operator panel (W x H) Singletouch	–	214 x 158 mm	274 x 190 mm	330 x 241 mm	415 x 310 mm	483 x 337 mm	–	415 x 310 mm	483 x 337 mm	560 x 380 mm	Operator panel (W x H) Singletouch		
Operator panel (W x H) Multitouch	–	–	–	–	398 x 257 mm	464 x 294 mm	–	398 x 257 mm	464 x 294 mm	529 x 331 mm	Operator panel (W x H) Multitouch		
Installation dimensions (W x H x D) Singletouch	Basic unit: approx. 191 x 100 x 60 mm	197 x 141 x 71 mm	251 x 166 x 71 mm	310 x 221 x 66 mm	396 x 291 x 73 mm	465 x 319 x 73 mm	Basic device: approx. 262 x 133 x 55.5 mm; Depth with 1 x PCIe / 2 x PCIe expansion: 85 mm / 105.3 mm	395 x 290 x 83 mm	464 x 318 x 83 mm	542 x 360 x 83 mm	Installation dimensions (W x H x D) Singletouch		
Installation dimensions (W x H x D) Multitouch	–	–	–	–	382 x 241 x 73 mm	448 x 278 x 73 mm	–	382 x 241 x 83 mm	448 x 278 x 83 mm	513 x 315 x 83 mm	Installation dimensions (W x H x D) Multitouch		

	SIMATIC HMI Panel PC Ex			SIMATIC HMI Thin Client Ex		SIMATIC PRO Device		SIMATIC Industrial Thin Client				SIMATIC Industrial Flat Panel						
																		
General features	SIMATIC Panel PC Ex OG capacitive multitouch	15" Touch ¹⁾	19" Touch ¹⁾	15" Touch ¹⁾	19" Touch	SIMATIC IPC477D PRO 15" / 19" / 22" Multitouch	SIMATIC IFP PRO 19" / 22" Multitouch	12" Touch	15" Touch	19" Touch	22" Touch	12" Touch	15" Touch or Multitouch 15" Keys	19" Touch or Multitouch (optional as Ethernet monitor)	22" Touch or Multitouch (optional as Ethernet monitor)	General features		
Resolution in pixels	15": 4:3 (1024 x 768) 21.5": 16:9 (1920 x 1080)	XGA (1024 x 768)	SXGA (1280 x 1024)	XGA (1024 x 768)	SXGA (1280 x 1024)	15": widescreen (1280 x 800) 19": widescreen (1366 x 768) 22": widescreen (1920 x 1080)	19": widescreen (1366 x 768) 22": widescreen (1920 x 1080)	widescreen (1280 x 800)	widescreen (1280 x 800)	widescreen (1366 x 768)	widescreen (1920 x 1080)	ST widescreen (1280 x 800)	ST widescreen (1280 x 800) MT widescreen (1920 x 1080)	ST widescreen (1366 x 768) MT widescreen (1920 x 1080)	ST widescreen (1920 x 1080) MT widescreen (1920 x 1080)	Resolution in pixels		
Max. distance to computer	–	–	–	Unlimited via Ethernet		–	30 m	Unlimited via Ethernet				Standard: 5 m	Standard: 5 m; extended: 30 m	Standard: 5 m; extended: 30 m / unlimited as Ethernet monitor	Max. distance to computer			
Processor	Intel Core i7-3517UE with 1.7 GHz	Intel Atom N270 (1.6 GHz) / Mobile Intel 945GSE		Based on x86		Intel Celeron 827E 1.4 GHz; 1,5 MB SLC or Intel Core i3-3217UE 1,6 GHz; 3 MB SLC or Intel Core i7-3517UE 1,7 (2,8) GHz; 4 MB SLC	–	Intel Celeron (1.2 GHz)				–		–	Processor			
Main memory	4 GB or 8 GB RAM	2 GB RAM		–		1 GB, 2 GB, 4 GB or 8 GB; 512 KB NVRAM optional	–	–				–		–	Main memory			
Operating systems (preinstalled and activated) / supported protocols	Windows 7 Ultimate MUI ¹⁾ / Windows Embedded Standard 7 P	Windows Embedded Standard 7 E (only on SSD); Windows 7 Ultimate MUI ¹⁾		Closed system based on Windows Embedded Standard 2009 / RDP, VNC		Windows Embedded Standard 7 (E / IP), 32-bit/64-bit; Windows 7 Ultimate MUI ¹⁾ , 32-bit/64-bit	–	Closed Linux with integrated communication protocols: VNC; SINUMERIK; WinCC-OA, Web browser; JAVA, CITRIX Client				–		–	Operating systems (preinstalled and activated) / supported protocols			
Power supply / max. power consumption	DC 24 V; 4,6 A (6,9 A) ¹⁰⁾ ; AC 110 V: 1,1 A (1,7 A) ¹⁰⁾ ; AC 230 V: 0,6 A (0,8 A) ¹⁰⁾	24 V DC / approx. 60 W	24 V DC / approx. 65 W	24 V DC / approx. 45 W	24 V DC / approx. 50 W	24 V DC (19.2 to 28.8 V DC)	24 V DC; +19.2 V to +28.8 V	24 V DC / approx. 28 W	24 V DC / approx. 36 W	24 V DC / approx. 32 W	24 V DC / approx. 53 W	24 V DC; 19.2 ... 28.8 V, approx. 40 W; extended version additionally 100–240 V AC, 50/60 Hz		Power supply / max. power consumption				
MTBF backlighting		Up to 50,000 h ¹⁾						Up to 80,000 h ¹⁾ ; dimmable from 0 to 100%				Up to 50,000 h ¹⁾ ; 10 to 100% dimming	Up to 80,000 h ¹⁾ ; dimmable from 0 to 100%		MTBF backlighting			
Drives																Drives		
Mass storage	SSD with 80 GB, 160 GB, 300 GB	16 GB CompactFlash; 128 GB SSD		–		Cfast up to 16 GB / SSD 80 GB or 160 GB; Cfast up to 16 GB (accessible from outside)	–	–				–		–	Mass storage			
Ports																Ports		
Ethernet	2 x Ethernet 10/100/1000 Base Tx (Ex e) or FO 100 Base Fx 100 Mbit (Ex op is)	1 x 100 Mbps Ex e or fiber optics 100 Mbps (SC)		1 x 100 Mbps Ex e or fiber optics 100 Mbps (SC)		2 x 10/100/1000 Mbps (RJ45); teaming Fieldbus: PROFIBUS DP/MP/ isolated; PROFINET RT via Ethernet (optional); PROFINET IRT (optional)	–	1 x 10/100/1000 MB/s (RJ45)				–		–	Ethernet			
USB	1 x USB (Ex e), 3 x USB (Ex ia)	2 x Ex e ("Zone 1" variant) or 2 x Ex nA ("Zone 2" variant)		2 x Ex i; 2 x Ex e ("Zone 1" variant) or 2 x Ex nA ("Zone 2" variant)		Rear: 4 x USB 3.0	Rear: 2 x USB 2.0	Rear: 2 x USB 2.0				Extended Version: 2 x USB 2.0 (at the rear)		–	USB			
Seriell / parallel	1 x RS 232 / RS 422 / RS 485 (Ex e)	1 x RS 232 or 1 x RS 422/485		1 x RS 232 or 1 x RS 422/485		1 x RS 232	–	–				–		–	Seriell / parallel			
Graphics interface	DVI out (Ex e)	–		–		1 x DVI, 1 x DisplayPort	1 x DVI, 1 x DisplayPort	–				1 x DVI-D; 1 x DisplayPort (partially 1 x Ethernet and 1 x DisplayPort)		–	Graphics interface			
Ambient conditions																Ambient conditions		
Degree of protection	IP66 / 4X all-round		IP66 (at the front); IP65 (at the rear)			All-round IP65 protection		IP65 (front) CE; EN 61000-6-4				IP65 (front) CE; EN 61000-6-4; EN 61000-6-2		Degree of protection				
EMV	EN 61000-6-2:2005 + AC:2005 EN 61000-6-4:2007 + A1:2011	CE; FCCA; 55022A; EN 61000-6-4/1000-6-2		CE; EN 55011; EN 61000-6-4		EN 61000-6-4; CISPR 22 Class A; FCC Class A	EN 61000-6-2; EN 61000-6-4	10 ... 58 Hz: 0.0375 mm; 58 ... 200 Hz: 9.8 m/s ² (1 g)				10 to 58 Hz: 0.0375 mm; 58 to 200 Hz: 9.8 m/s ² (1 g)		EMV				
Vibration during operation ³⁾	3 ... 22 Hz: 1 mm; 22 ... 500 Hz: 9.8 m/s ² (1 g) ⁹⁾		3 ... 22 Hz: 1 mm; 22 ... 500 Hz: 9.8 m/s ² (1 g)			5 ... 8.4 Hz: 3.5 mm 8.4 ... 500 Hz: 9.8 m/s ² (1 g)	5 ... 8.4 Hz: 3.5 mm 8.4 ... 500 Hz: 9.8 m/s ² (1 g)	50 m/s ² (5 g); 30 ms				50 m/s ² (approx. 15 g); 11 ms		Vibration during operation ³⁾				
Shock load during operation ⁴⁾	150 m/s ² (approx. 15 g); 11 ms		150 m/s ² (approx. 15 g); 11 ms			50 m/s ² (15 g); 11 ms	(15 g); 11 ms	50 m/s ² (5 g); 30 ms				150 m/s ² (approx. 15 g); 11 ms		Shock load during operation ⁴⁾				
Relative humidity ⁸⁾	> 95% at +65 °C (no condensation)	90% at 40 °C (no condensation)			90% at 40 °C (no condensation)	5 ... 85% at 30 °C, no condensation ⁸⁾	10 ... 90% at 30 °C, no condensation ⁸⁾	5 ... 85% at 25 °C (no condensation)				95% at 25 °C (no condensation)		Relative humidity ⁸⁾				
Ambient temp. in continuous operation at full processor load	–10 °C (opt. –40 °C) ... 65 °C	–20 ... 50 °C			–20 ... 50 °C	0 ... 45 °C (Intel i3 or i7 processor with SSD up to 40 °C)	0 to 45 °C	0 to 50 °C	0 to 45 °C		0 to 50 °C (partially up to 45 °C)		Ambient temp. in continuous operation at full processor load					
Certification / EU directives	Gas: II 2 (1) G Ex e q [ia op is Ga] IIC T4 Gb; Staub: II 2 (1) D Ex tb [ia op is Da] IIIC T115 °C Db	"Zone 1" variant: II 2 (2) G Ex d e mb ib [op is] [ib] [op is], IIC T4, II 2 D Ex tD A21 IP65 T90 °C, DNV (Marine), GOST-R, UL-Inmetro ⁴⁾ "Zone 2" variant: 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			CE, cULus, FCC, KC, EAC, RCM, Atex / IECEx (in Vorbereitung), cFMus, Marine	CE, cULus, FCC, RCM, KC, EAC, cFMus, Marine	CE; cULus; C-Tick; KCC; FM				CE; cULus / cULus Hazardous Location; partially or optionally: ATEX; C-Tick; Marine, Ex, KC		Certification / EU directives					
Dimensions																Dimensions		
Operator panel (W x H) Singletouch	–	440 x 340 mm	535 x 425 mm	440 x 340 mm	535 x 425 mm	–	–	330 x 241 mm	415 x 310 mm	483 x 337 mm	560 x 380 mm	330 x 241 mm	416 x 298 mm	483 x 337 mm	560 x 380 mm	Operator panel (W x H) Singletouch		
Operator panel (W x H) Multitouch	15": 380 x 394 x 137 mm 21.5": 553 x 458 x 141 mm	–	–	–	–	15": 396 x 255mm; 19": 475 x 296mm; 22": 527 x 329mm	19": 475 x 296mm; 22": 527 x 329mm	–	–	–	–	–	398 x 257 mm	464 x 294 mm	529 x 331 mm	Operator panel (W x H) Multitouch		
Installation dimensions (W x H x D) Singletouch	–	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	–	–	310 x 221 x 82 mm	396 x 291 x 75 mm	465 x 319 x 75 mm	542 x 362 x 75 mm	308 x 219 x 71,1 mm	399 x 291 x 63 mm	465 x 319 x 63 mm	542 x 362 x 63 mm	Installation dimensions (W x H x D) Singletouch		
Installation dimensions (W x H x D) Multitouch	None installed	–	–	–	–	None installed; mounting on supporting arm or stand		–	–	–	–	–	382 x 241 x 63 mm	448 x 278 x 63 mm	513 x 315 x 63 mm	Installation dimensions (W x H x D) Multitouch		

SIMATIC Basic IPC				SIMATIC Advanced IPC		SIMATIC High-end IPC					
	SIMATIC IPC377E 12"	SIMATIC IPC327E	SIMATIC IPC347E	SIMATIC IPC547G		SIMATIC IPC647D	SIMATIC IPC847D	SIMATIC IPC627D	SIMATIC IPC827D	SIMATIC IPC677D	
											
General features	Panel PC, 12"	Box PC	Rack PC, 19", 4HE	Rack PC, 19", 4HE short enclosure	Rack PC, 19", 4HE	Rack PC, 19", 2HE	Rack PC, 19", 4HE	Box PC	Box PC	Panel PC, 15", 19" or 22" Touch or Multitouch	General features
Mounting / display resolution	Installatio, VESA; 12": 1280 x 800	Wall and rail mounting	Ready for telescopic rails; for horizontal installation; 19" mounting bracket detachable from the outside	Ready for telescopic rails; for horizontal and vertical installation; 19" mounting bracket detachable from the outside; tower kit (optional)		Ready for telescopic rails; for horizontal installation; 19" mounting bracket detachable from the outside	Ready for telescopic rails; for horizontal and vertical installation; 19" mounting bracket detachable from the outside; tower kit (optional)	Wall mounting using any mounting bracket, portrait mounting using front/portrait mounting kits (optional)	Wall mounting using any mounting bracket, portrait mounting using front/portrait mounting kits (optional)	Built-in unit for centralized configuration 15" Touch: 1366 x 768; 15" Multitouch: 1280 x 800; 19": 1366 x 768; 22": 1920 x 1080	Mounting / display resolution
Processor	Intel Celeron Quad Core N3160 (4C/4T, 1,6 GHz, up to 2,24 GHz, 2 MB Cache)		Intel Pentium Dual Core G3420 (2C/2T, 3,2 GHz, 3 MB Cache) Intel Core i5-4570S (4C/4T, up to 3,6 GHz, 6 MB Cache)	Xeon E3-1275 v5 (4C/8T; 3,6 (4,0) GHz; 8 MB cache; VT-x/d; iAMT 11.0) ¹⁾ Core i7-6700 (4C/8T; 3,4 (4,0) GHz; 8 MB cache; VT-x/d; iAMT 11,0) Core i5-6500 (4C/4T; 3,2 (3,6) GHz; 6 MB cache; VT-x/d; iAMT 11,0) Pentium G4400 (2C/2T, 3,3 GHz, 3 MB cache; VT-x/d)		Xeon E3-1268L v3 (4C/8T; 2,3 (3,3) GHz; 8 MB Cache; VT-x/d; AMT 9,0); Core i5-4570TE (2C/4T; 2,7 (3,3) GHz; 4 MB Cache; VT-x/d; AMT 9,0); Core i3-4330TE (2C/4T; 2,4 GHz; 4 MB Cache; VT-x)	Xeon E3-1275 v3 (4C/8T; 3,5 (3,9) GHz; 8 MB Cache; VT-x/d; AMT 9,0); Xeon E3-1268L v3 (4C/8T; 2,3 (3,3) GHz; 8 MB Cache; VT-x/d; AMT 9,0); Core i5-4570TE (2C/4T; 2,7 (3,3) GHz; 4 MB Cache; VT-x/d; AMT 9,0); Core i3-4330TE (2C/4T; 2,4 GHz; 4 MB Cache; VT-x)	Intel Xeon E3-1268L v3 (4C/8T; 2,3 (3,3) GHz; 8 MB Cache; VT-d; AMT 9,0); Core i3-4330TE (2C/4T; 2,4 GHz; 4 MB Cache; VT-x); Celeron G1820TE (2C/2T; 2,2 GHz; 2 MB Cache)	Intel Xeon E3-1268L v3 (4C/8T; 2,3 (3,3) GHz; 8 MB Cache; VT-d; AMT 9,0); Core i3-4330TE (2C/4T; 2,4 GHz; 4 MB Cache; VT-x); Celeron G1820TE (2C/2T; 2,2 GHz; 2 MB Cache)	Intel Xeon E3-1268L v3 (4C/8T; 2,3 (3,3) GHz; 8 MB cache; VT-d; AMT 9,0); Core i3-4330TE (2C/4T; 2,4 GHz; 4 MB cache; VT-x); Celeron G1820TE (2C/4T; 2,2 GHz; 2 MB cache)	Processor
Main memory	4 GB DDR3L-1600 (configurable up to 8 GB)		2 GB and 4 GB DDR3-1600 SDRAM; 2 x DIMM	From 4 GB DDR4-2133 SDRAM; 2 x DIMM, configurable up to 32 GB or 4 x DIMM ¹⁾ ; configurable up to 64 GB ¹⁾ (only for mainboard with C236 chipset)		From 2 GB DDR3-1600 SDRAM; 4 x DIMM; configurable up to 32 GB; ECC optional		From 2 GB DDR3-1600 SDRAM; 2 x DIMM; configurable up to 16 GB; ECC optional; non-volatile memory: NVRAM 2 MB optional			Main memory
Free expansion slots	1x mPCIe (half-size)		4 x PCI; 1 x PCIe x 16; 1 x PCIe x 8; 1 x PCIe x 1 (all 312 mm)	2 x PCI; 2 x PCIe x 16; 1 x PCIe x 8; 2 x PCIe x 4 (all 312 mm)		4 x PCIe x 16; 2 x PCI and 2 x PCIe x 16 (all 312 mm)	7 x PCI; 1 x PCIe x 16; 3 x PCIe x 4 or 3 x PCI; 5 x PCIe x 16; 3 x PCIe x 4 (all 312 mm)	2 x PCI (240 mm) or 1 x PCIe x 16 (185 mm); 1 x PCI (185 mm) or 1 x PCIe x 1 (185 mm)	2 x PCI (240 mm); 1 x PCI (185 mm); 1 x PCIe x 16 (185 mm); 1 x PCIe x 4 (185 mm)	2 x PCI (240 mm) or 1 x PCIe x 16 (185 mm); 1 x PCI (185 mm) or 1 x PCIe x 16 (185 mm); 1 x PCIe x 4 (185 mm)	Free expansion slots
Graphics	Intel HD Graphics 400 integrated in processor, max.1920 x 1200		Intel HD Graphics / Intel HD Graphics 4600 integrated in processor, Dynamic Video Memory up to 1,7 GB; max. resolution VGA / DVI-I: 1920 x 1200	Intel HD Graphics 510/530/P530 integrated in the processor with dynamic video memory up to 1,7 GB; max. DisplayPort resolution: 4096 x 2304 / 60 Hz / 32-bit colors; DVI: 1920 x 1200 / 60 Hz / 32-bit colors; Graphics card: NVIDIA NVS 315 optional, dual-head: 2 x DVI-D or 2 x VGA; PCIe x 16, 1 GB; max. resolution (digital) 2560 x 1600 / 60 Hz / 32-bit color depth		Intel HD Graphics 4600 integrated in the processor with Dynamic Video Memory up to 1,7 GB; max. DisplayPort resolution: 3840 x 2160 / 130 Hz / 32-bit color depth; DVI: 1920 x 1200 / 60 Hz / 24-bit; Graphics card: NVIDIA NVS 300 optional; dual-head: 2 x VGA or 2 x DVI-D; PCIe x 16, 512 MB; max. resolution 2048 x 1536 / 60 Hz / 32-bit color depth		Intel HD Graphics 4600 (Xeon, Core i3) integrated in the processor with Dynamic Video Memory up to 512 MB; max. DisplayPort resolution: 3840 x 2160 / 130 Hz / 32-bit color depth; DVI: 1920 x 1200 / 60 Hz / 24-bit			Graphics
Power supply / temporary voltage interruption	24 V DC (20.4 to 28.8 V); max. 10ms		AC: 100 – 240 V, 50 – 60 Hz/max. 17 ms	AC: 100 – 240 V; 50 – 60 Hz/ max. 20 ms (in acc. with NAMUR)	AC: 100 – 240 V; 50 – 60 Hz/ max. 20 ms (in acc. with NAMUR); optional AC redundant: 100 – 240 V; 50 – 60 Hz/ max. 20 ms	AC: 100 – 240 V; 50 – 60 Hz/ max. 20 ms (in acc. with NAMUR); optional AC redundant: 100 – 240 V; 50 – 60 Hz/ max. 20 ms	AC: 100 – 240 V; 50 – 60 Hz/ max. 20 ms (in acc. with NAMUR); optional AC redundant: 100 – 240 V; 50 – 60 Hz/ max. 20 ms; optional UPS with maintenance-free lead-tin battery	AC: 100–240 V; 50 – 60 Hz/ max. 20 ms (in accordance with NAMUR); 24 V DC: 20.4 ... 28.8 V			Power supply / temporary voltage interruption
Operating system											Operating system
Installed and activated	Windows 7 Ultimate (64 Bit) MUI ¹⁾			Windows 7 Ultimate (64-bit) MUI ¹⁾ ; Windows 10 IoT Enterprise LTSB 2015 (64-bit) MUI ¹⁾ ; Windows Server 2008 R2 Standard Edition incl. 5 clients (64-bit) MUI ¹⁾ ; Windows Server 2012 R2 Standard Edition incl. 5 clients (64-bit) MUI ¹⁾		Windows 7 Ultimate (32/64 Bit) MUI ¹⁾ ; Windows Server 2008 R2 (64 Bit) MUI ¹⁾ ; Windows Server 2012 R2 (64 Bit) MUI ¹⁾		Windows 7 Ultimate (32/64-bit) MUI ¹⁾ ; Windows Embedded Standard 7 P (32-bit); released for S7-1500 Software Controller			Installed and activated
Additional	–			Suited for Linux (available soon)		VxWorks Support Package Suited for Linux; VMware (ESX) certification		VxWorks Support Package, suited for Linux		Suited for Linux	Additional
Packages, bundles	Packages mit WinCC V7; WinCC RT Advanced			Packages available soon		Packages with WinCC V7; WinCC RT Advanced; WinCC RT Professional and WinAC RTX (F)					Packages, bundles
Drives											Drives
Hard disks	500 GB HDD		Installed internally: 500 GB / 1 TB / 256 GB SSD	Installed internally 1 TB, 2 x 1 TB; SSD 240 GB; SSD 480 GB; 2x SSD 480GB; RAID1 11) (2x SSD 480GB) RAID1 11) (2x 1 TB Enterprise or 2x 2 TB Enterprise	Installed internally or front-mounted in removable drive bay inserts: 1 TB; 2 x 1 TB; SSD 240 GB; SSD 480 GB; 2 x SSD 480 GB; RAID1 ¹⁾ (2 x SSD 480 GB) RAID1 ¹⁾ (2 x 1 TB Enterprise or 2 x 2 TB Enterprise and optionally plus 2 TB as hot spare or SSD 480 GB); RAID5 ¹⁾ (3 x 2 TB Enterprise, optionally plus 2 TB as hot spare)	Installed internally or front-mounted in rem. frame: 500 GB; 1 TB; 2 x 1 TB; SSD 240 GB; RAID1: 2 x 1 TB HDD (SAS optional); 2 x 240 GB SSD	Installed internally or front-mounted in rem. frame: 500 GB; 1 TB; 2 x 1 TB; SSD 240 GB; RAID1: 2 x 1 TB HDD (SAS, 240 GB SSD and 1 x TB HDD hot spare optional); 2 x 240 GB SSD; RAID5: 3 x 1 TB HDD (SAS, 1 x TB HDD hot spare optional)	Installed internally in removable frame: 250 GB 3.5" or 500 GB 3.5"; SSD 240 GB plus optional HDD 320 GB; RAID1: 2 x 250 GB 2.5"		Installed internally: 250 GB 3.5" or 500 GB 3.5"; SSD 240 GB plus optional HDD 320 GB; RAID1: 2 x 320 GB 2.5"	Hard disks
Optical drives	–		DVD±R/RW	–				DVD ± R/ RW / DL- / RAM			Optical drives
Mounting locations	1x mSATA (full-size)		4 (internal: 1 x 3,5", front: 3 x 5,25")	2 (internal: 2 x 3,5"/2,5")		3 (internal: 2 x 3,5", front: 1 x 12,7 mm Slimline) or 3 (front: 2 x low-profile swap frames; 1 x 12,7 mm Slimline)	6 (internal: 2 x 3,5", front: 3 x 5,25"; 1 x 12,7 mm Slimline) or 7 (internal: 2 x 3,5", front: 4 x low-profile swap frames; 1 x 12,7 mm Slimline)	–		–	Mounting locations
Ports											Ports
Fieldbus	PROFINET RT			–		PROFINET RT via Ethernet PROFINET IRT: 1 x 10/100 Mbps (3-port switch, optional) PROFINET DP/MP: 1 x 12 Mbps (isolated) optional		2 x Intel: 10/100/1000 Mbps (RJ45); teaming; 1 x Intel: 10/100/1000 Mbps for PROFINET IRT variant		1 x 12 Mbps (isolated, compatible with CP 5622) optional	PROFIBUS/MPI
Ethernet	2 x 10 / 100 / 1000 MB/s (RJ45)		2 x Realtek: 10/100/1000 MB/s (RJ45)	2 x Intel: 10/100/1000 Mbps (RJ45); teaming		2 x Intel: 10/100/1000 Mbps (RJ45); teaming; 1 x Intel: 10/100/1000 Mbps for PROFINET IRT variant		4 x USB 3.0		4 x USB 3.0; 1 x USB 3.0 at the front (with single touch)	Ethernet
USB	2 x USB 3.0 2 x USB 2.0	2 x USB 3.0 4 x USB 2.0	USB 3.0: 2 x at the rear 4 x USB 2.0; 4 x at the front; 1 x internal ¹⁾	USB 3.0: 2 x at the front; 4 x at the rear ¹⁾ or 2 x at the rear USB 2.0: 4 x at the rear; 1 x internal ¹⁾		USB 3.0: 1 x at the front; 2 x at the rear; 1 x internal; USB 2.0: 1 x at the front; 2 x at the rear		4 x USB 3.0		4 x USB 3.0; 1 x USB 3.0 at the front (with single touch)	USB
Serial / parallel	2 x COM (RS232); 2 x COM (RS232/485/422)	4 x COM (RS232); 2 x COM (RS232/485/422)	1 x COM1 (V.24); 1 x COM2 (V.24)	1 x COM1 (V.24); 1 x COM2 (V.24) (optional); 1 x LPT (optional)		1 x COM1 (V.24); 1 x COM2 (V.24) (optional); 1 x LPT (optional)		1 x COM1		1 x COM1	Serial / parallel
Graphics interface / DVI / DisplayPort	1 x DP, 1 x VGA		1 x VGA / 1 x DVI-D	1 x DVI-D / 2 x DisplayPort V1.2 ¹⁾ or 1 x DisplayPort V1.2; 2 x VGA or 2 x DVI-D via PCIe graphics card (optional)		1 x DVI-I / 2 x DisplayPort V1.2; 2 x VGA or 2 x DVI-D via PCIe graphics card (optional)		1 x DVI-D/1 x DisplayPort		1 x DVI-D/1 x DisplayPort	Graphics interface / DVI / DisplayPort
Legacy interfaces	–		2 x PS/2	2 x PS/2		2 x PS/2		–		–	Legacy interfaces
Audio	1 x Audio out		1 x Line in; 1 x Line out; 1 x Mic.	1 x Line in; 1 x Line out; 1 x Mic.		1 x Mic; 1 x Line out		–		–	Audio
Monitoring / diagnostics functions											Monitoring / diagnostics functions
Basic functionality	–			Temperature; fan; watchdog; HDD; RAID; SSD; CMOS battery (alarm locally by means of SIMATIC IPC DiagBase software)		Temperature; fan; watchdog; HDD; RAID; SSD; CMOS battery; redundant power supply (alarm locally by means of SIMATIC IPC DiagBase software)		Temperature; fan; watchdog; HDD; RAID; SSD; CMOS battery (alarm locally by means of SIMATIC IPC DiagBase software)		Temperature; fan; watchdog; HDD; RAID; SSD; CMOS battery (alarm locally by means of SIMATIC IPC DiagBase software)	Basic functionality
Advanced functions	–			Temperature; fan; watchdog; hard disks (SMART) <ul style="list-style-type: none">• System/Ethernet monitoring• Operating hours counter• Communication via Ethernet; SNMP and OPC interface (optionally via SIMATIC IPC DiagMonitor software)		Temperature; fan; watchdog; hard disks (SMART) <ul style="list-style-type: none">• System/Ethernet monitoring• Operating hours counter• Communication via Ethernet; SNMP and OPC interface (optionally via SIMATIC IPC DiagMonitor software)		Temperature; fan; watchdog; hard disks (SMART) <ul style="list-style-type: none">• System/Ethernet monitoring• Operating hours counter• Communication via Ethernet; SNMP and OPC interface (optionally via SIMATIC IPC DiagMonitor software)		Temperature; fan; watchdog; hard disks (SMART) <ul style="list-style-type: none">• System/Ethernet monitoring• Operating hours counter• Communication via Ethernet; SNMP and OPC interface (optionally via SIMATIC IPC DiagMonitor software)	Advanced functions
Remote access	–			Via Intel Active Management Technology (iAMT) 11.0 and SIMATIC IPC Remote Manager		Via Intel Active Management Technology (iAMT) 9.0 (with Core i5 and Xeon) and SIMATIC IPC Remote Manager		Via Intel Active Management Technology (iAMT) 9.0 (Xeon) and SIMATIC IPC Remote Manager		Via Intel Active Management Technology (iAMT) 9.0 and SIMATIC IPC Remote Manager	Remote access
Front LEDs	POWER; HDD			POWER; HDD; TEMP; FAN; HDD ALARM 0/1/2/3		POWER; HDD; ETHERNET 1/2; PROFIBUS/PROFINET; WATCHDOG; TEMP; FAN; HDD 0/1 ALARM	POWER; HDD; ETHERNET 1/2; PROFIBUS/PROFINET; WATCHDOG; TEMP; FAN; HDD 0/1/2/3 ALARM	1 x power; 3 x users		1 x power; 3 x users	Front LEDs
Ambient conditions											Ambient conditions
Degree of protection	IP65 front, IP20 rear	IP40	IP20 front; IP20 rear	IP30 front; IP20 rear		IP41 front; IP20 rear		IP20		IP65 front; IP20 elsewhere	Degree of protection
Protection class	Protection class I according to IEC 61140			Protection class I according to IEC 61140		Protection class I according to IEC 61140		Protection class I according to IEC 61140			Protection class
Vibration during operation ⁵⁾	Tested acc IEC 60068-2-6, with HDD and Wall mounting: 0,5 g		–	20 ... 58 Hz: 0.015 mm; 58 ... 200 Hz: 2 ms/s ² (approx. 0,2 g)		10 ... 58 Hz: 0.0375 mm; 58 ... 500 Hz: 5 ms/s ² (approx. 0,5 g)		10 ... 58 Hz: 0.075 mm; 58 ... 500 Hz: 9,8 ms/s ² (approx. 1 g)			Vibration during operation
Shock load during operation ⁶⁾	Tested acc IEC 60068-2-27, with HDD: 1 g		–	9,8 ms/s ² ; 20 ms (approx. 1 g)		50 ms/s ² ; 30 ms (approx. 5 g)		50 ms/s ² ; 30 ms (approx. 5 g)			Shock load during operation
Relative humidity ⁸⁾	5 ... 85% at 30 °C (no condensation)		5 ... 80% at 25 °C (no condensation)	5 ... 80% at 25 °C (no condensation)		5 ... 85% at 30 °C (no condensation)		5 ... 80% at 25 °C (no condensation)			Relative humidity
Ambient temperature in operation	0 – 40 °C at full processor power	0 – 40 °C for 10 W USB load and at full processor power	5 to 40 °C at full processor performance	0 to 40 °C at full processor performance (see operating instructions for limitations)		0 to 50 °C at full processor performance		55 °C/ 50 °C / 5 to 45 °C (10 W on PCI / 20 W on PCI / maximum configuration)		5 to 45 °C (maximum configuration)	Ambient temperature in operation
Electromagnetic compatibility (EMC)											Electromagnetic compatibility (EMC)
Emitted interference	IEC 61000-6-4; CISPR 22:2004 Class A; FCC Class A		IEC 61000-6-4; CISPR 22: FCC Class A; EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4; CISPR 22/EN 55022 Class B; FCC Class A; EN 61000-3-2 Class D; EN 61000-3-3		EN 61000-6-3; EN 61000-6-4; CISPR 22 / EN 55022 Class B; FCC Class A; EN 61000-3-2 Class D; EN 61000-3-3		EN 61000-6-3; EN 61000-6-4; CISPR220 Class B; FCC Class A		EN 61000-6-3; EN 61000-6-4; CISPR220 Class B; FCC Class A	Emitted interference
Zulassungen/ Richtlinien											Approvals / directives
Safety	IEC 60950-1			IEC 60950-1; EN 60950-1; UL 60950-1; CSA C22.2 No. 60950-1-07		IEC 60950-1; EN 60950-1; UL 60950-1; CSA C22.2 No. 60950-1-07		AC: EN 60950-1; UL 60950-1; CAN/CSA C22.2 No 60950-1-03; DC: EN 61131-2; UL 508; CSA C22.2 No 142		IEC/EN/DIN EN 60950-1	Safety
CE Mark / EU Directives, Certification	CE for use in industrial sector; cULus (UL 60950); KCC; EAC; FCC; BSMI (available soon)		CE for use in industrial sector; cULus (UL 60950); RoHS; C-Tick; BSMI (available soon); KCC; EAC; FCC	CE for use in residential, commercial and industrial sector; cULus (UL 60950); RoHS; KC; C-Tick		CE for use in residential, commercial and industrial sector; cULus (UL 60950); shipbuilding approvals ⁹⁾ ; RoHS; KC; C-Tick	CE for use in residential, commercial and industrial sector; cULus (UL 60950); RoHS; KC; C-Tick	CE for use in residential, commercial and industrial sector; cULus (UL 60950); shipbuilding approvals ⁹⁾ ; RoHS; KC; C-Tick		CE for industrial sector; cULus according to UL 508	CE Mark / EU Directives, Certification
Dimensions and weight											Dimensions and weight
Installation dimensions (WxHxD) in mm / Operator panel (B x H) in mm	302 x 208 x 89 / 320 x 226	254 x 140 x 75	430 x 177 x 463	434 x 177 x 356	434 x 177 x 446	430 x 88 x 448	430 x 170 x 448	312 x 301 x 100 (incl. mounting rail; with DVD)	312 x 301 x 170 (incl. mounting rail; with DVD)	15" Touch: 395 x 290 x 112; 15" Multitouch: 398 x 279 x 112; 19": 464 x 318 x 112; 22": 541 x 361 x 112	Installation dimensions (W x H x D) in mm
Weight	2,7 kg	2,0 kg	from 13 kg	from 15 kg		from 16 kg	from 16 kg	approx. 6 kg	approx. 7 kg	approx. 15 kg	Weight

¹⁾ MUI (multi-language user interface); 5 languages (ENG, GER, FR, SP, IT) ²⁾ GL, LRS, BV, DMV, ABS, Class NIK ³⁾ Tested according to: IEC 60068-2-6 ⁴⁾ Tested according to: IEC 60068-2-27 ⁵⁾ Tested according to: IEC 60068-2-78, IEC 60068-2-30 ⁶⁾ Only for mainboard with C236 chipset

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