Industrial PCs for the Digital Factory

Higher performance, quality and sustainability with SIMATIC IPC
Introduction

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 solution for every requirement

SIMATIC IPC: all advantages at a glance

- Customized solution
- Efficient from the very start
- Quality guarantees your success
- For Today and Tomorrow
- On-site with everything in view
- Ergonomic operation
- Tailored to your application
- A home-field advantage in the digital factory
- Successful applications
- Always by your side

New product: SIMATIC IPC127E
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 SI MATIC standard – precisely tailored to your specific requirements.

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

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

Designed for industry

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

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.

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.

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 and German Design Award 2018: 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.

1995

Box PC 620

2019

Box PC IPC627D

Box PC IPC627C

Box PC IPC627B

Box PC IPC627

Box PC 627

Box PC 620

Box PC IPC627D

Box PC IPC627C

Box PC IPC627B

Box PC IPC627

Box PC 627

Box PC 620

Box PC IPC627D

Box PC IPC627C

Box PC IPC627B

Box PC IPC627

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Box PC IPC627C

Box PC IPC627B

Box PC IPC627

Box PC 627

Box PC 620

Box PC IPC627D

Box PC IPC627C

Box PC IPC627B

Box PC IPC627

Box PC 627

Box PC 620
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.

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

On-site with Everything in View
Industrial Flat Panels, Thin Clients, and Tablet PCs

Ergonomic Operation
Fast, intuitive operator panels with glass fronts
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.

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

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.

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

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.
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

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

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

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

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/ipc847e

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
  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 engineer ing with a fail-safe software controller on a main-tenance-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.

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There's more to it:

siemens.com/mpc-based-automation

Follow us on:

twitter.com/siemensindustry

youtube.com/siemens
Siemens AG 2018

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Factory Automation
Gleiwitzer Str. 555
90475 Nuremberg, Germany

Subject to changes and errors.

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

**Key Features**

- **Processor**:
  - Intel Core i3-3217UE: 1.6 GHz; Intel Core i5-3218UE: 2.5 GHz; Intel Core i7-3517UE: 3.0 GHz

- **Memory**:
  - 4 GB or 8 GB RAM

- **Storage**:
  - 220 GB, 300 GB, 480 GB

- **Power Supply**:
  - DC 24 V; 20.4–28.8 V; max. 5 ms; on/off switch

- **Ambient Conditions**:
  - –10 °C (opt. –40 °C) ... 65 °C

- **Certification / EU directives**:
  - EN 61000-6-2:2005 + AC:2005

- **Resolution in pixels**:
  - 19": widescreen (1366 x 768)
  - 22": widescreen (1920 x 1080)

### SIMATIC IPCs and Thin Clients for special requirements

**Options**

- SIMATIC Thin Client & Flat Panel

**Specifications**

<table>
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*Note: Data is subject to change.*