

SIMATIC S7-1200

It's the interplay that makes the difference



SIMATIC Controller

www.siemens.com/simatic-s7-1200

SIEMENS

Modular. Powerful. Easy to use.

It's the common interfaces, communication, and one easy-to-use integrated engineering system for both the controller and HMI that makes the difference.

The interplay between the new SIMATIC S7-1200 controller, our seamless range of SIMATIC HMI Basic Panels and the highly integrated SIMATIC STEP 7 Basic engineering system provides a unique integrated automation solution specifically for the compact controller class.

It's the Interplay

The new modular SIMATIC S7-1200 controller is at the core of our new offering for simple but highly precise automation tasks. The optimized performance of our SIMATIC HMI Basic Panels, designed for seamless compatibility with this new controller and the powerfully integrated engineering system, ensures simplified development, fast start-up, precise monitoring and the highest level of usability. It's the interplay between these products and their innovative features that give you an unprecedented level of efficiency for small automation systems.

The Controller

The SIMATIC S7-1200 controller is modular and compact, versatile, a secure investment, and is perfectly fit for a full range of applications. It comes in a scalable and flexible design and enables communication that fulfills the highest, most demanding requirements in the industry. A full range of powerful and integrated technology makes this controller an integral part of a comprehensive automation solution.

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The Panels

The operation of small machines or simple applications can often be further improved with the addition of visualization. With the SIMATIC HMI Basic Panels offering essential functionality, this is an economical option that opens up new possibilities for creative automation solutions. The range of SIMATIC HMI Basic Panels includes high-contrast graphical displays with touch and tactile function keys, simple networking and seamless communication making them ideal for applications with the new SIMATIC S7-1200.

The Software

Our highly integrated engineering system, SIMATIC STEP 7 Basic, which includes SIMATIC WinCC Basic, is task-oriented, intelligent and provides intuitive easy-to-use editors for the efficient configuration of the SIMATIC S7-1200 and SIMATIC HMI Basic Panels. In addition to programming, it is the common engineering framework for hardware and network configuration, diagnostics and more. The functionality provided by this engineering system is the key ingredient that makes the interplay between the controller and HMI so powerful.

In the field of automation, powerful components are a key factor to success. But what really gives you a unique advantage, is all of them working together.



A modular concept for compact automation in a scalable design.

The SIMATIC S7-1200 features an integrated PROFINET interface, PROFIBUS functionality, remote access as well as powerful integrated technology functions and a highly flexible and scalable design. This enables simple communication, efficient solutions for technological tasks, and a perfect fit for individual automation requirements in a wide variety of applications.



Scalable and flexible design

The SIMATIC S7-1200 controller family has been designed for maximum flexibility when configuring individual machines. This allows you to custom-design your controller system to optimally meet specific needs; it also makes future system expansions quick and easy.

Industrial communication

As a PROFINET IO controller, SIMATIC S7-1200 fully enables the connection of PROFINET IO devices. In addition, the integrated PROFINET interface provides seamless communication with the SIMATIC STEP 7 Basic engineering system for project planning and programming, with SIMATIC HMI Basic Panels for visualization, with additional controllers for PLC-to-PLC communication and with third-party devices for advanced integration options. The connection to the

fieldbus standard PROFIBUS for short reaction times, for example, is made possible thanks to the new PROFIBUS communication modules as well.

Integrated technology

The name SIMATIC has been a reliable symbol in the field of automation for many years. We have taken our experience and have integrated our proven and innovative technology functions into our new controller – ranging from counting and measuring, speed, position and duty cycle control to simple process control functionality. This wide variety of functionality guarantees you the ability to solve a wide array of applications.

The Controller in detail

- Scalable and flexible design
- Industrial communication
- Integrated technologies

Communication modules

Up to 3 communication modules can be added to any of the SIMATIC S7-1200 CPUs. The RS485 and RS232 communication modules are fit for serial, character-based point-to-point connections. The library functions USS drive protocol and Modbus RTU Master and Slave protocols are already included within the SIMATIC STEP 7 Basic engineering system.



Simple telecontrol applications

The new communication processor CP 1242-7 enables both monitoring and controlling of distributed S7-1200 units from a single hub – via mobile telephone networks or the Internet.

Integrated PROFINET interface



The PROFINET IO controller enables the connection of PROFINET devices. The integrated PROFINET interface can be used for programming, as well as for HMI

and PLC-to-PLC communication. Additionally, communication is supported by third-party devices – based on open Ethernet protocols. This interface features an RJ45 connector with auto-cross-over functionality and provides for data transmission rates at 10/100 Mbit/s. A higher number of Ethernet connections are enabled by the following protocols: TCP/IP native, ISO on TCP, and S7 communication.

Integrated technology

High-speed inputs

The new SIMATIC S7-1200 controller comes with up to six high-speed counters. Three inputs at 100 kHz and three inputs at 30 kHz are seamlessly integrated for counting and measuring functionality.

High-speed outputs

Two high-speed pulse train outputs at 100 kHz are integrated for controlling the speed and position of a stepper motor or a servo drive. They can alternatively be used as pulse-



Full PROFIBUS functionality

Up to 16 DP-slave connections may be implemented in combination with the PROFIBUS DP Master CM 1243-5. The S7-1200 is able to communicate with any other DP master thanks to the intelligent PROFIBUS DP Slave CM 1242-5.

Memory

The controller comes with up to 50 KB of integrated work memory – with a floating boundary between the user program and user data. Up to 2 MB of integrated load memory and 2 KB of integrated retentive memory are also provided.

The optional SIMATIC Memory Card provides an easy way to transfer programs to multiple CPUs. This card can also be used for storing miscellaneous files or to update the firmware of the controller system.

width-modulated outputs for controlling the speed of a motor, positioning a valve or controlling a heating element.

PID control

PID control loops with auto-tune allow for simple closed-loop process control applications.



Scalable and flexible design



Signal modules

Up to eight signal modules can be connected to the largest CPUs for the support of additional digital and analog I/Os.

Signal boards

One signal board can be directly pinned up to a CPU. This allows you to customize the CPUs by adding digital or analog I/Os to the controller without affecting its physical size. The modular concept provided by the SIMATIC S7-1200 allows you to design a controller system to exactly fit your application needs.

The Controller in detail

- Scalable and flexible design
- Industrial communication
- Integrated technologies

Design or expand a controller system to exactly fit your requirements.



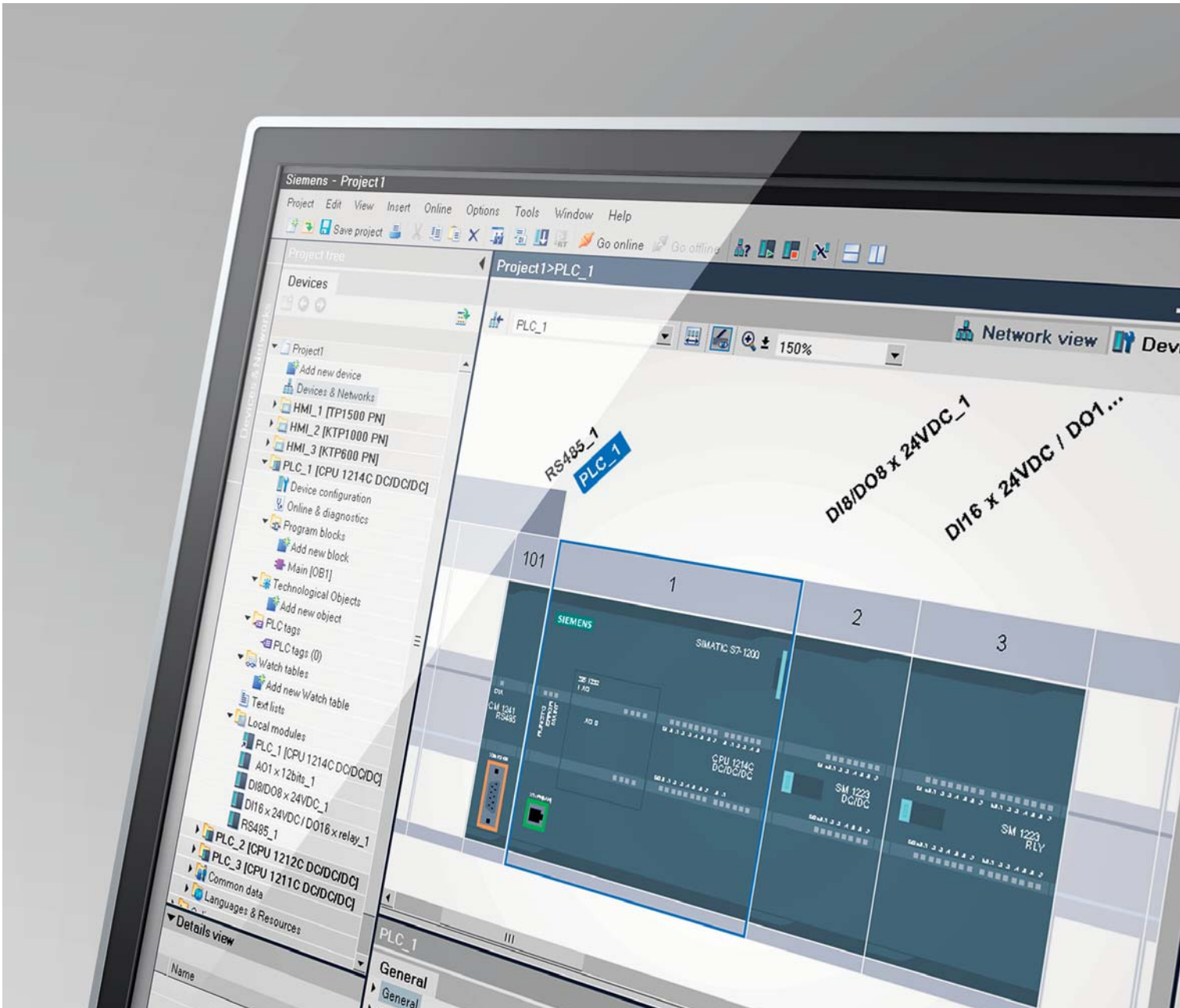
With the addition of a signal board, you can increase the number of digital or analog I/Os on the controller to custom-fit your needs without increasing the controller's footprint.

Signal boards, signal modules, communication modules

The SIMATIC S7-1200 system comes in three different models, CPU 1211C, CPU 1212C and CPU 1214C, which may each be expanded to exactly fit your machine requirements. One signal board can be added inside the front of any CPU to easily expand the digital or analog I/Os without affecting the physical size of the controller. Signal modules can be connected to the right side of the CPU to further expand the digital or analog I/O capacity. CPU 1212C accepts two and CPU 1214C accepts eight signal modules. Finally, all SIMATIC S7-1200 CPUs can be equipped with up to three communication modules on the left side of the controller – this allows for any type of communication, including PROFIBUS, PROFINET, point-to-point communication, WAN and GPRS.

Easy and convenient installation

All SIMATIC S7-1200 hardware has built-in clips that allow for easy and convenient mounting on a standard 35-mm DIN rail. These built-in clips can also be snapped into an extended position to provide mounting holes for situations where panel mounting is required. The SIMATIC S7-1200 hardware can be installed in either a horizontal or vertical position providing you with additional installation options. These integrated features offer users maximum flexibility during the installation process and they make the SIMATIC S7-1200 a practical solution for a wide variety of applications.



Removable terminals

All SIMATIC S7-1200 hardware is equipped with removable terminal blocks. This means that wiring only has to be done once, saving valuable time during the start-up and commissioning phases of a project. Additionally, the removable terminal blocks are an added convenience when hardware components must be replaced.

Space-saving design

All SIMATIC S7-1200 hardware has been specifically designed to save space in the control panel. For example, CPU 1214C has a width measuring only 110 mm and both the CPU 1212C and CPU 1211C are only 90 mm wide. Together with the small communication and signal modules, this modular system saves valuable space and offers you the highest level of efficiency and flexibility during the installation process.

The device view within the SIMATIC STEP 7 Basic engineering system allows you to easily configure and visualize your SIMATIC S7-1200 controller system.

The Controller in detail

- Scalable and flexible design
- Industrial communication
- Integrated technologies

Fast, easy and flexible communication.



The PROFINET IO controller with integrated PROFINET interface, additionally enabling communication among engineering software, panels and the CPU without any problems.

Integrated PROFINET interface

The SIMATIC S7-1200 is equipped with an integrated PROFINET interface, which provides seamless communication with the integrated SIMATIC STEP 7 Basic engineering. It supports programming, communication with SIMATIC HMI Basic Panels for visualization, communication with additional controllers for PLC-to-PLC communication and with third-party devices for advanced integration possibilities. The interface consists of a noise-immune RJ45 connector with auto-cross-over functionality, which supports Ethernet networks and features a data transmission rate of up to 10/100 Mbit/s.

Fast fieldbus communication

There are two new communication modules (CMs) that facilitate the connection of S7-1200 to PROFIBUS. Up to 16 field devices may be connected as DP slaves with the DP Master CP 1243-5, as decentralized peripheral ET 200 units, for example. The S7-1200 may function as a DP slave with the CM 1242-5 and may thus be connected to any other DP master. Both modules are easily connected via the backplane bus to the left of the CPU.

Simple networking

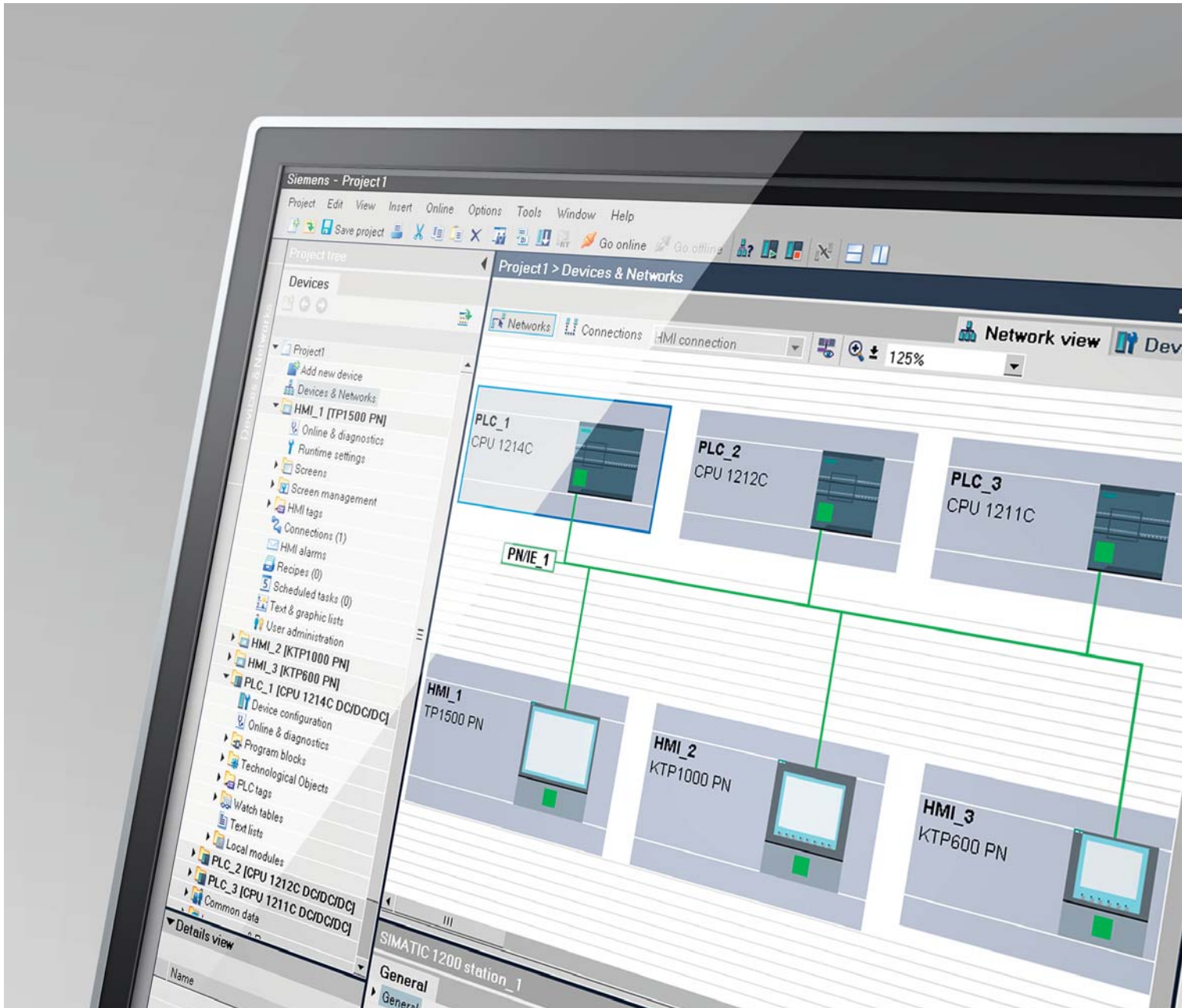
To minimize cabling and provide maximum networking flexibility, the CSM 1277 Compact Switch Module can be used to configure a uniform or mixed network – with line, tree or star topologies. The CSM 1277 is a 4-port unmanaged switch, which allows you to connect the SIMATIC S7-1200 with up to three additional devices.

Communication with additional controllers and HMI devices

To ensure communication with additional SIMATIC controllers and HMI devices, the SIMATIC S7-1200 supports the connection to multiple devices communicating with the proven S7 communication protocol.

Communication with third-party devices

Seamless integration of devices from other manufacturers is possible with the integrated PROFINET interface on the SIMATIC S7-1200. It is possible to connect and communicate with multiple third-party devices utilizing the supported open Ethernet protocols TCP/IP native and ISO on TCP. This communication capability, which is configured with standard T-Send/T-Receive instructions provided by the integrated engineering system



SIMATIC STEP 7 Basic, offers you an even higher level of flexibility in designing your automation solution.

PROFINET – the open Industrial Ethernet standard

Utilizing established TCP/IP standards, the integrated PROFINET interface provided with the SIMATIC S7-1200 can be used for programming, or to communicate with HMI devices and additional controllers. As a PROFINET IO controller, SIMATIC S7-1200 now supports communication with PROFINET IO devices.

PROFIBUS – the fieldbus standard

Thanks to the recent connection between S7-1200 and the fieldbus standard PROFIBUS – the powerful network with short reaction times –, a uniform communication from the field level to the control level will be made possible in the future. This is our dedicated reaction to one of the most important requirements in the segment of compact automation.

The network view within the SIMATIC STEP 7 Basic engineering system allows you to easily configure and visualize your network configuration.

The Controller in detail

- Scalable and flexible design
- Industrial communication
- Integrated technologies

Powerful technology functions. Completely integrated.



Integrated technology for counting and measuring, closed-loop control and motion control make the SIMATIC S7-1200 an extremely versatile system for many types of automation tasks.

High-speed inputs for counting and measuring

Up to six high-speed counters, three at 100 kHz and three at 30 kHz, are integrated for precise monitoring of incremental encoders, frequency counting, or high-speed counting of process events.

High-speed outputs for speed, position or duty cycle control

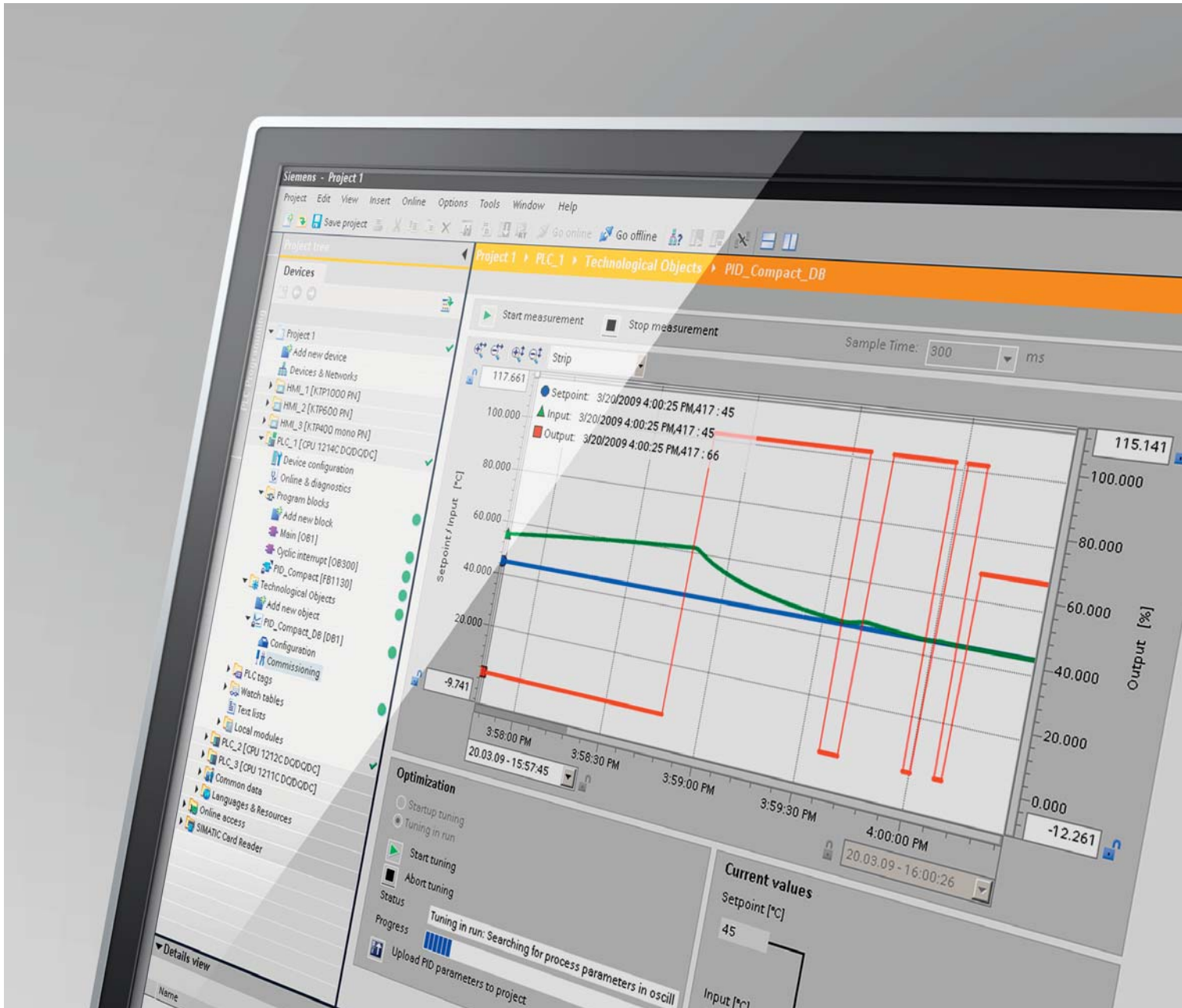
Two high-speed outputs are integrated into the SIMATIC S7-1200 controller for use as either pulse train outputs or pulse-width-modulated outputs. When configured as a PTO, they offer a pulse train with 50 percent duty cycle at a rate of up to 100 kHz for the open-loop speed and position control of stepper motors and servo drives. Feedback for the pulse train outputs is provided internally using two of the high-speed counters. When configured as a PWM output, a fixed cycle time output with a variable duty cycle is provided for controlling the speed of a motor, the position of a valve or the duty cycle of a heating element.

PLCopen motion function blocks

The SIMATIC S7-1200 supports the open-loop speed and position control of stepper motors and servo drives. This functionality is easily configured using an axis technology object along with the internationally accepted PLCopen motion function blocks included within the engineering system SIMATIC STEP 7 Basic. Absolute, relative and velocity moves are supported in addition to home and jog functions.

Drive commissioning control panel

The drive commissioning control panel included with the engineering system SIMATIC STEP 7 Basic simplifies the start-up and commissioning of stepper motors and servo drives. It provides both automatic and manual control of a single motion axis as well as online and diagnostics information.



PID functionality for closed-loop control

The SIMATIC S7-1200 supports PID control loops for simple process control applications. These control loops are easily configured using a PID controller technology within the engineering system SIMATIC STEP 7 Basic. Additionally, the SIMATIC S7-1200 supports PID auto-tuning to automatically compute the optimum tuning values for the gain, integral time and derivative time.

PID commissioning control panel

The PID commissioning control panel included within SIMATIC STEP 7 Basic simplifies the loop tuning process. It provides both automatic tuning and manual control capabilities for a single control loop and it also provides a graphical trend view of the tuning process.

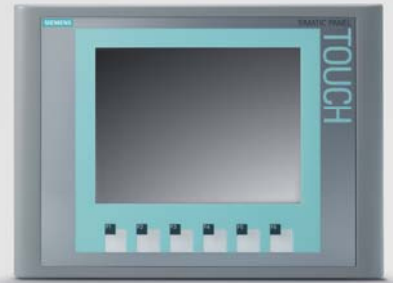
The tuning of PID control loops is fast and accurate using the commissioning control panel included with SIMATIC STEP 7 Basic.



KP300 Basic mono PN



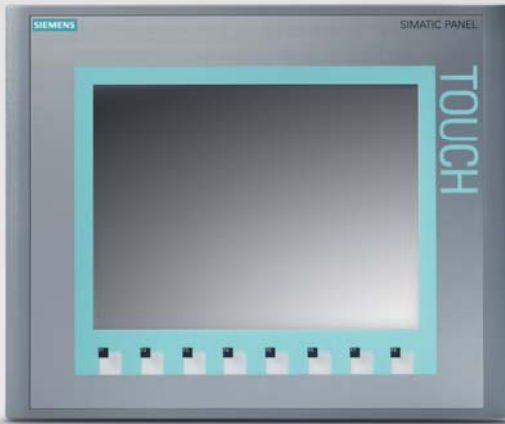
KTP400 Basic mono PN



KTP600 Basic color PN

The SIMATIC HMI Basic Panels: high-quality panels at attractive prices.

The SIMATIC HMI Basic Panels are designed for seamless compatibility with the new SIMATIC S7-1200 controller. Our new SIMATIC HMI Basic Panels for compact applications provide a solution that adapts to your specific visualization requirements with optimized performance and functionality, a wide variety of screen sizes and mounting compatibility for easy upgrades.



KTP1000 Basic color PN



TP1500 Basic color PN

Optimized performance and functionality

The SIMATIC S7-1200 integrates perfectly with the SIMATIC HMI Basic Panels to provide simple visualization and control options for compact automation applications. With the seamless integration between the controller and HMI engineering software, SIMATIC STEP 7 Basic and SIMATIC WinCC Basic, the perfect solution with the best results can be achieved in the shortest amount of time.

Touch screen and tactile keys

The new SIMATIC HMI Basic Panels feature a touch display for intuitive operation as standard starting at 4". Apart from touch screen operation on 4", 6" or 10" displays, the panels also have fully programmable keys with tactile feedback. A device with a 15" touch screen is also available for applications where visualization requires a larger display area. For applications in the lower performance segment, we offer a compact device for operation with ten functional keys. The high-definition 3" display offers an individually configurable LED background illumination in color.

Numerous standard functions for engineering of compact automation tasks.



The new SIMATIC HMI Basic Panels with an integrated PROFINET interface allow easy and user-friendly visualization of machines and processes. This represents an essential part of the interplay with the SIMATIC S7-1200.

PROFINET interface

Each of the SIMATIC HMI Basic Panels has an integrated PROFINET interface. This enables communication with the controller and the transmission of parameterization and configuration data. The PROFINET interface, which is integrated in the SIMATIC S7-1200 controller, makes the interplay between the controller and the SIMATIC HMI Basic Panels easy and reliable.

Space-saving design and ruggedness

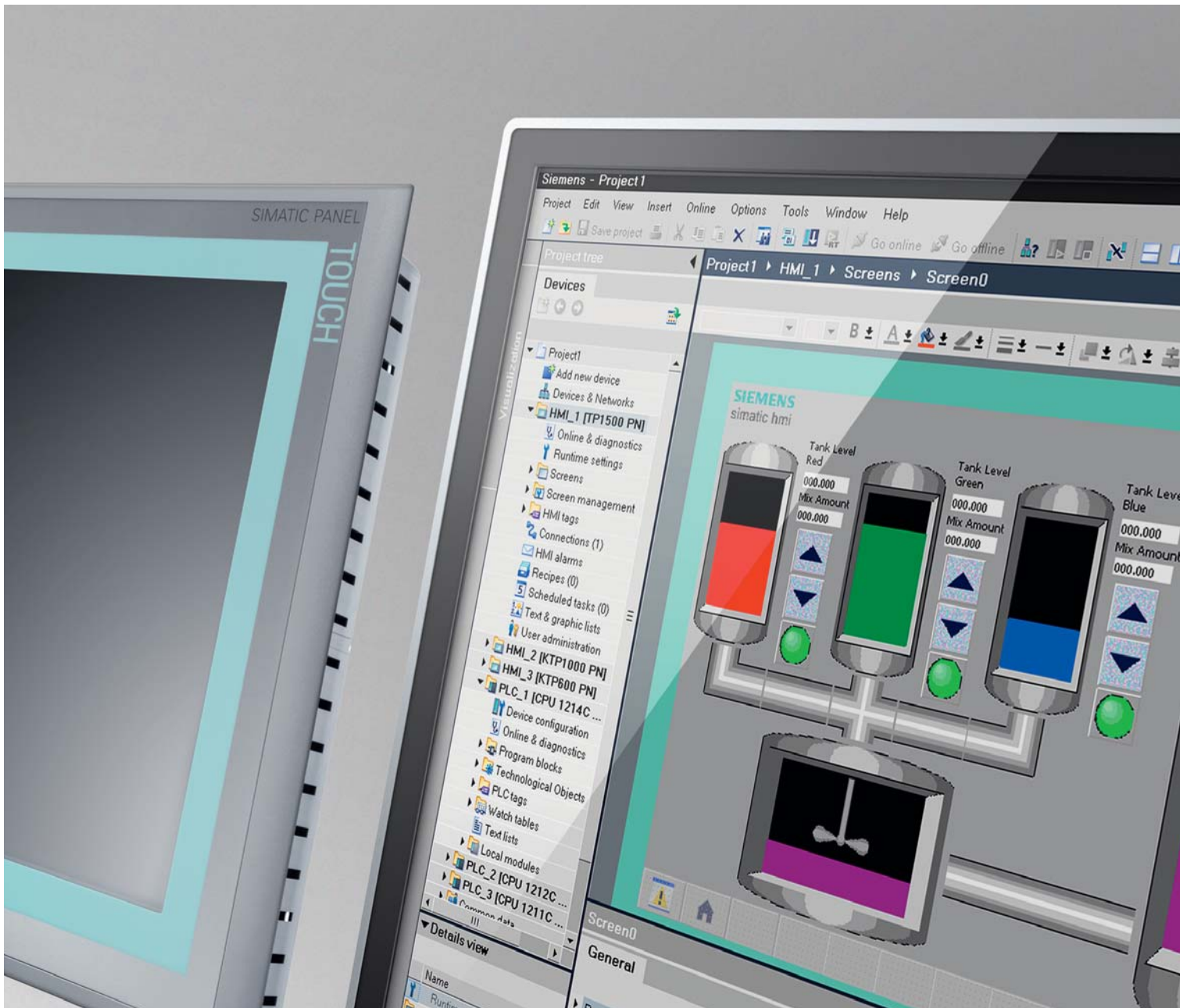
With the IP65 degree of protection, the SIMATIC HMI Basic Panels are very well suited for use in rough industrial environments. With compact installation dimensions, they are also fit for applications where space is limited. In applications where space is extremely limited, the four- and six-inch variants can be installed and configured in an upright position.

Functionalities

All SIMATIC HMI Basic Panels are equipped with a complete range of relevant functionalities, such as alarm logging systems, recipe management, trend functionality, and vector graphics. A comprehensive library with various graphics and objects is provided within the engineering system. User administration according to the demands of different industries is available as well, for example authentication with user ID and password.

Worldwide application

With various certifications and the fulfillment of different norms and regulations, configuration data being available in up to 32 languages and support of Asian and Cyrillic fonts, the SIMATIC HMI Basic Panels are perfectly fit for worldwide application. During operation, up to five languages are available and can be changed online. Language-dependent graphics additionally support intuitive operation.



Display and graphics

The SIMATIC HMI Basic Panels starting at 4" to 15" have a standard touch display for intuitive operation. The use of displays with full graphical functionality offers entirely new possibilities for visualization: vector graphics, the representation of trend charts, texts, bitmaps and I/O fields enable a clearly arranged and thus user-friendly operation display. Background illumination of the 3" device may be individually set to white, green, red or yellow. This enables the visualization of alarms, for example, and reduces the need for additional components for optical signaling.

Function keys

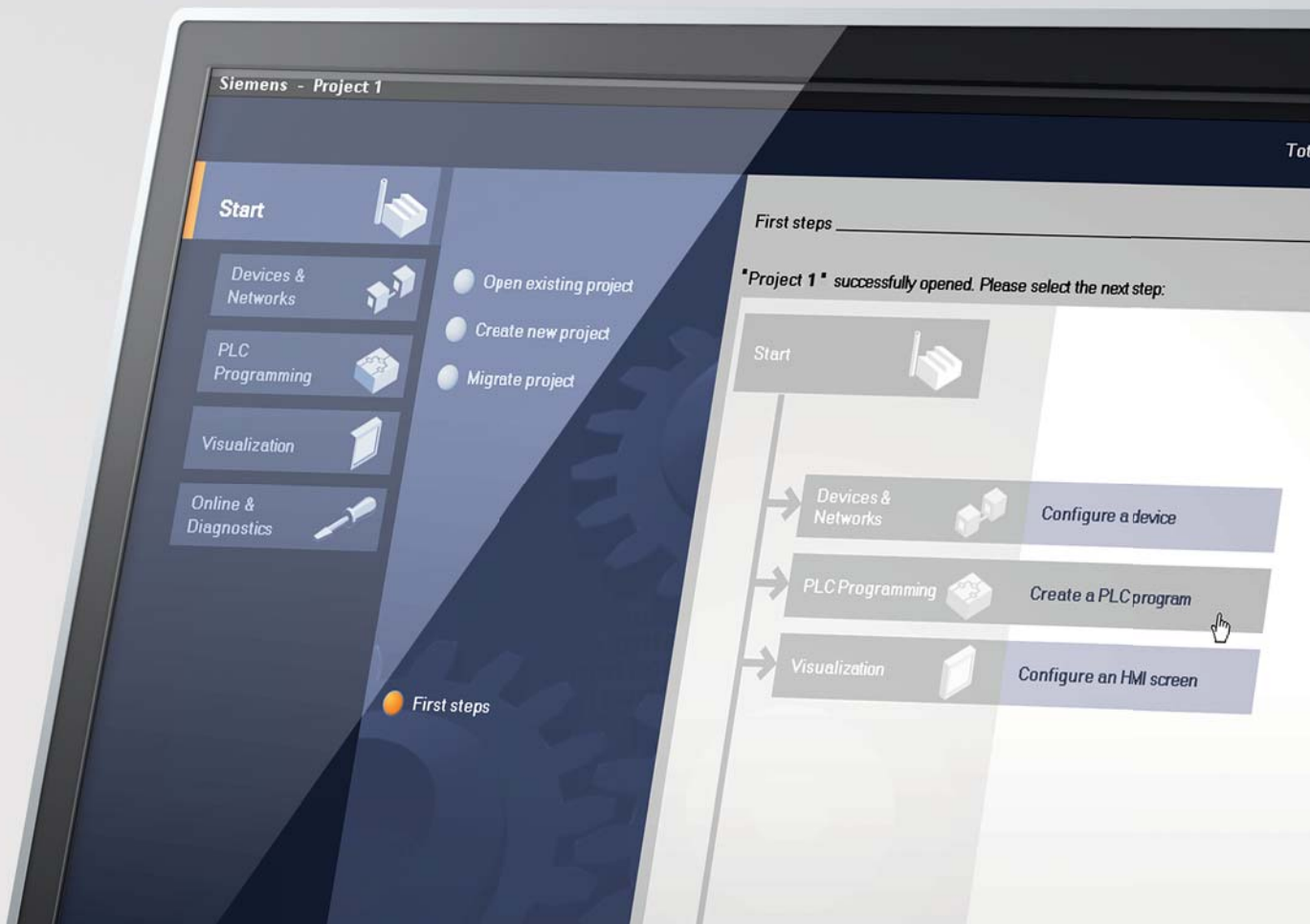
Aside from touch screen functionality, the SIMATIC HMI Basic Panels in sizes of 4", 6" and 10" screens have individually configurable function keys – this means individual functionalities may be configured according to the selected display on the screen. Additional usability and operational reliability is ensured with the tactile feedback provided by these function keys. The keys on the 3" device may be individually configured. Operation of these keys is similar to mobile phone keys – enabling fast and intuitive operation.

The SIMATIC HMI Basic Panels are easily configured using SIMATIC WinCC Basic which is integrated into the SIMATIC STEP 7 Basic engineering system.



One software for all tasks.

SIMATIC STEP 7 Basic is designed to be intuitive, easy to learn and easy to use. This provides you with highest efficiency in engineering. Smart functionalities such as intuitive editors, drag and drop functionality as well as automatic recognition of possible commands and variables during operation simply result in faster engineering. This new future-proof software architecture is based on the many years of experience of the innovation leader in automation technology.



One common engineering framework
SIMATIC STEP 7 Basic, including SIMATIC WinCC Basic, has task-oriented, intelligent and intuitive editors that enable it to serve as one common engineering framework for programming SIMATIC S7-1200 controllers and configuring SIMATIC HMI Basic Panels. The new integrated engineering system SIMATIC STEP 7 Basic offers you intuitive and fast engineering capabilities for programming and commissioning comprehensive automation solutions. Starting from STEP 7 V11, SIMATIC STEP 7 Basic is an integrated part of SIMATIC STEP 7 Professional for all SIMATIC controllers.

Supporting first-time users and professionals

With SIMATIC STEP 7 Basic, ease of use is guaranteed, whether you are just starting out in engineering or have many years of routine. Engineering is easy to learn and use for starters, and fast and efficient for professionals.

Different users may choose from two different types of views. Using the portal view, you have all tasks for an automation project at a glance. This means beginners are supported with a task-oriented user guidance. Users are provided with task-specific editors that are perfect-

ly fit for their automation task. When using the project view, your entire project is hierarchically structured in the project tree, enabling fast, intuitive access to all editors, parameters and project data – an important prerequisite for object-oriented engineering. Both first-time users and professionals will be able to solve engineering tasks fast and efficiently.

A new dimension in intuitive and efficient engineering.

SIMATIC STEP 7 Basic with integrated SIMATIC WinCC Basic enables the user to perform an unparalleled fast and easy engineering. One project view for all, state-of-the-art user interface technology for intuitive graphical engineering with intelligent drag and drop functionality, shared data handling and more ensures high-quality projects.

One common project tree for controller and HMI

One common project view relieves you from handling separate files for each automation device. This makes sure that your whole project is always consistent after changes in any part of the project. Thus, high project quality is ensured. The project tree's clearly arranged structure remains organized even with complex engineering projects. This is the basis for fast access to respective devices, folders or specific views that will assist you in engineering an automation task. ①

Intelligent drag and drop between controller and HMI editors

Symbols may be assigned to hardware with the drag and drop functionality; the same method can be used for connecting tags between the controllers and HMI. This enables the user to efficiently use both HMI and controller editors within one common engineering framework. ② ③

and change between them per mouse click. Common functions for all editors enable the user to handle projects fast and efficiently. An attractive graphical user interface and immediate system responsiveness on a standard PC ensure ease of use and highest productivity from the beginning of every project.

① ② ③ ④

Higher project quality due to shared data handling and consistent symbolism

Automated data consistency ensures high project quality. Modified application data is automatically updated within the entire project. The cross-referencing concept ensures that variables are used consistently within all parts of the project and for various devices – they can thus be updated consistently. Symbols are automatically generated and assigned to respective I/Os. Data is only entered once, meaning that no additional address and data module handling is needed, which reduces the risk of errors. ① ② ③ ④

Reuse of data due to a comprehensive library concept

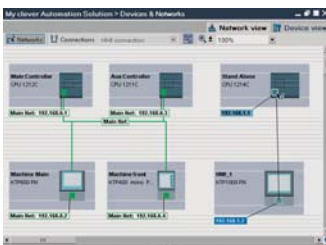
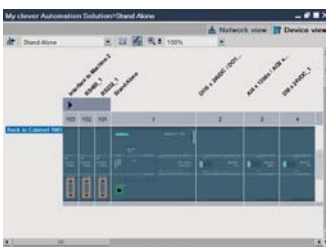
Users may save various engineering elements such as blocks, tags, alarms, HMI screens, individual modules and entire stations in local and global libraries. These elements can be reused within the same project and in different projects as well. Data may be exchanged between separately configured systems with the help of the global library. ④

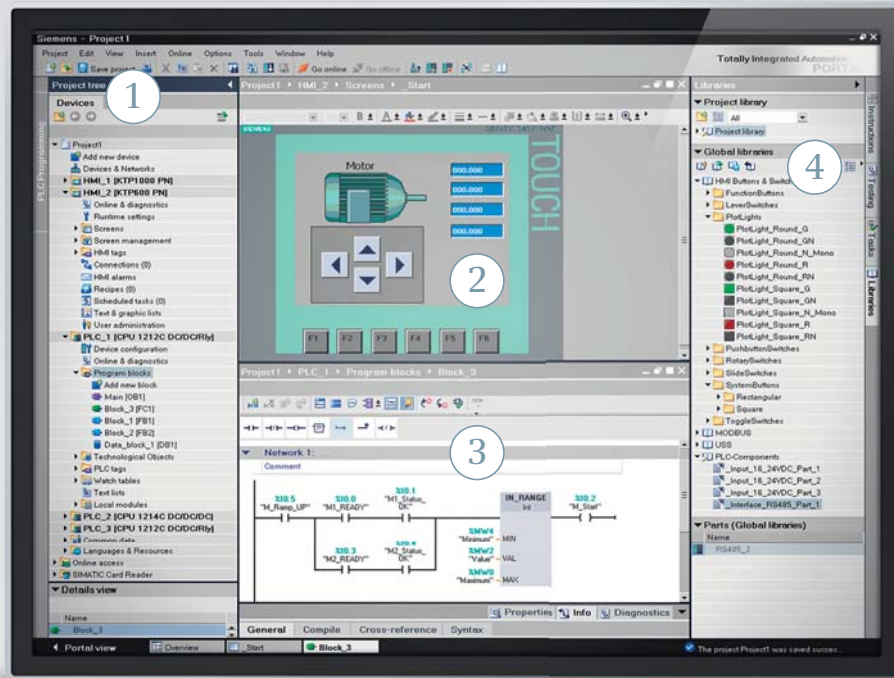
Clearly arranged graphical engineering

A fast and intuitive configuration of devices and networks is ensured by the graphical editors. Connections can be easily configured by graphically connecting the individual devices with lines. In the online mode, visual diagnostics information is provided. For users, this means complex systems may be handled easily and efficiently and large projects are still clearly arranged.

Clear and intuitive user interface for highest usability

The software has a task-oriented user concept. All editors are embedded into one common framework. The user may intuitively work with all editors





More beneficial features.

Whether the direct online testing and diagnosis, the easy addition of technology objects or the library concept for time-efficient reuse of data – these and many more functions in detail add to the overall concept of a new dimension in engineering.

Online test and diagnostics

Only a single mouse click is needed to go online, even if a project has not been loaded. Once online, the project's online and offline status are immediately compared to detect possible differences. Differences or conflicts are clearly displayed, as different engineering modules can be opened in both online and offline status.

Adding technology objects

Adding technology objects is only a mouse click away as well. While adding new objects such as an axis or a PID controller, respective settings are displayed in the engineering system's "Add new object" window. The object may be named according to its function. When fine-tuning various objects, the user is supported with a function description and may obtain additional information via help online. Once an object has been configured,

it may be opened in the editor right away, if required. Efficient editors allow intuitive programming in KOP, FUP and SCL.

Controller programming

Intelligent functions support the user and reduce errors. Configuration and modification of program modules is easy and efficient with only little information to put in. Frequently used commands can even be stored in a favorites list and the entire engineering modules can be copied and added to programs of other SIMATIC S7-1200 controllers; new symbols are automatically added.

Changes can be made very quickly. With a single click, functional modules can be altered subsequently. The modules may be saved, even if not all symbols or I/Os have been assigned. The symbols can also be altered within the user program. It is also easy to configure and modify connections.

Integrated HMI

SIMATIC STEP 7 Basic includes the powerful HMI software SIMATIC WinCC Basic for efficient programming and configuring of SIMATIC HMI Basic Panels. Efficient engineering means for example: direct use of controller process values in the HMI project using intelligent drag and drop functionality. HMI is part of the entire project which means that consistent HMI data is always guaranteed. Connections between HMI and PLC can be centrally defined. Several templates can be created and assigned to other screens. Completely integrated HMI functionality makes configuring the SIMATIC HMI Basic Panels very easy, highly powerful and efficient at the same time.



SIMATIC HMI Basic Panels



KP300 Basic mono PN
10 Function Keys
3.6" LCD mono FSTN display with background illumination in color (white, red, green, yellow)

6AV6 647-0AH11-3AX0



KTP400 Basic mono PN
Touch Screen + 4 Function Keys,
3.8" LCD mono FSTN display,
4 gray scales

6AV6 647-0AA11-3AX0



KTP600 Basic mono PN
Touch Screen + 6 Function Keys,
5.7" LCD mono FSTN display,
4 gray scales

6AV6 647-0AB11-3AX0



KTP600 Basic color PN
Touch Screen + 6 Function Keys,
5.7" LCD TFT display, 256 colors

6AV6 647-0AD11-3AX0



KTP1000 Basic color PN
Touch Screen + 8 Function Keys,
10.4" LCD TFT display, 256 colors

6AV6 647-0AF11-3AX0



TP1500 Basic color PN
Touch Screen,
15.0" LCD TFT display, 256 colors

6AV6 647-0AG11-3AX0

Compact Switch Module



CSM 1277
4-port unmanaged switch,
4xRJ45 sockets,
10/100 Mbit/s

6GK7 277-1AA00-0AA0



Engineering System



SIMATIC STEP 7 Basic V11
6ES7 822-0AA00-0YA0

SIMATIC STEP 7 Professional V11
6EF7 822-1AA01-0YL0

Software Update Service
6ES7 822-0AA00-0YL0

Telecontrol Server Basic 8
6NH9 910-0AA20-0AA3

Telecontrol Server Basic 64
6NH9 910-0AA20-0AA6

Telecontrol Server Basic 256
6NH9 910-0AA20-0AA8

and more.

Power Module



PM 1207
 Input: 120/230 V AC,
 50/60 Hz, 1.2 A/0.67 A,
 Output: 24 V DC/2.5 A

6EP1 332-1SH71

Communication modules and processor



CM 1241 RS232
 6ES7 241-1AH30-0XB0

CM 1241 RS485
 6ES7 241-1CH30-0XB0

CM 1242-5 PROFIBUS DP Slave
 6GK7 242-5DX30-0XE0

CM 1243-5 PROFIBUS DP Master
 6GK7 243-5DX30-0XE0

CP 1242-7 GPRS
 6GK7 242-7KX30-0XE0

Signal and comm



SIMATIC S7-1200 Compact Controllers



CPU 1211C
 DI 6x24 V DC, DQ 4x24 V DC or 4xRLY, AI 2x10 Bit 0–10 V DC
 DC/DC/DC 6ES7 211-1AD30-0XB0
 AC/DC/RLY 6ES7 211-1BD30-0XB0
 DC/DC/RLY 6ES7 211-1HD30-0XB0



CPU 1212C
 DI 8x24 V DC, DQ 6x24 V DC or 6xRLY, AI 2x10 Bit 0–10 V DC
 DC/DC/DC 6ES7 212-1AD30-0XB0
 AC/DC/RLY 6ES7 212-1BD30-0XB0
 DC/DC/RLY 6ES7 212-1HD30-0XB0



CPU 1214C
 DI 14x24 V DC, DQ 10x24 V DC or 10xRLY, AI 2x10 Bit 0–10 V DC
 DC/DC/DC 6ES7 214-1AE30-0XB0
 AC/DC/RLY 6ES7 214-1BE30-0XB0
 DC/DC/RLY 6ES7 214-1HE30-0XB0

Accessories



Communication boards

SB 1221 DC 200 kHz DE 4x5 V DC DE 4x24 V DC	6ES7 221-3AD30-0XB0 6ES7 221-3BD30-0XB0	SB 1231 AI AE 1x12 Bit ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 0–20 mA	6ES7 231-4HA30-0XB0
SB 1222 DC 200 kHz DA 4x5 V DC 0.1 A DA 4x24 V DC 0.1 A	6ES7 222-1AD30-0XB0 6ES7 222-1BD30-0XB0	SB 1231 RTD AE 1xRTDx16 Bit, Type: Platin (Pt)	6ES7 231-5PA30-0XB0
SB 1223 DC/DC DE 2x24 V DC / DA 2x24 V DC 0.5 A	6ES7 223-0BD30-0XB0	SB 1231 TC AI 1xTCx16 Bit, Types: J, K, voltage range: ± 80 mV	6ES7 231-5QA30-0XB0
SB 1223 DC/DC 200 kHz DE 2x5 V DC / DA 2x5 V DC 0.1 A DE 2x24 V DC / DA 2x24 V DC 0.1 A	6ES7 223-3AD30-0XB0 6ES7 223-3BD30-0XB0	CB 1241 RS485 Clamping block	6ES7 241-1CH30-1XB0
SB 1232 AQ AA 1x12 Bit ± 10 V DC or 0–20 mA	6ES7 232-4HA30-0XB0		



SIMATIC Memory Card

2 MB (optional)
 6ES7 954-8LB00-0AA0
 24 MB (optional)
 6ES7 954-8LF00-0AA0



TS Adapter IE Basic

6ES7 972-0EB00-0XA0



Quad-Band GSM Antenna

ANT794-4MR
 6NH9 870-1AA00

SIM 1274 Input Simulator

8 positions for CPU 1211C/CPU 1212C
 6ES7 274-1XF30-0XA0
 14 positions for CPU 1214C
 6ES7 274-1XH30-0XA0



TS Module Modem

6ES7 972-0MM00-0XA0

Signal Module Expansion Cable

2.0 m
 6ES7 290-6AA30-0XA0



TS Module ISDN

6ES7 972-0-0MD00-0XA0

TS Module RS232

6ES7 972-0MS00-0XA0

TS Module GSM

6GK7 972-0MG00-0XA0

Signal Modules



SM 1221 DC
DE 8x24 V DC
DE 16x24 V DC

6ES7 221-1BF30-0XB0
6ES7 221-1BH30-0XB0



SM 1222 DC
DA 8x24 V DC 0.5 A
DA 16x24 V DC 0.5 A

6ES7 222-1BF30-0XB0
6ES7 222-1BH30-0XB0



SM 1222 RLY
DA 8xRLY 30 V DC/250 V AC 2 A
DA 16xRLY 30 V DC/250 V AC 2 A

6ES7 222-1HF30-0XB0
6ES7 222-1HH30-0XB0

SM 1223 DC/DC
DE 8x24 V DC, DQ 8x24 V DC 0.5 A
DE 16x24 V DC, DQ 16x24 V DC 0.5 A

6ES7 223-1BH30-0XB0
6ES7 223-1BL30-0XB0



SM 1223 DC/RLY
DE 8x24 V DC, DQ 8xRLY 30 V DC/250 V AC 2 A
DE 16x24 V DC, DQ 16xRLY 30 V DC/250 V AC 2 A

6ES7 223-1PH30-0XB0
6ES7 223-1PL30-0XB0



SM 1223 AC/RLY
DE 8x120/250 V AC, DA 8xRLY 30 V DC/250 V AC 2 A

6ES7 223-1QH30-0XB0

SM 1231 AI
AE 4x13 Bit ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 0–20 mA
AE 8x13 Bit ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 0–20 mA

6ES7 231-4HD30-0XB0
6ES7 231-4HF30-0XB0

SM 1231 RTD
AE 4xRTDx16 Bit
Types: Platinum (Pt), Copper (Cu), Nickel (Ni) or Resistance

6ES7 231-5PD30-0XB0

SM 1231 TC
AE 4xTCx16 Bit
Types: J, K, T, E, R, S, N, C, TXK/XK(L) Voltage range: ± 80 mV

6ES7 231-5QD30-0XB0

SM 1232 AQ
AA 2x14 Bit ± 10 V DC or 0–20 mA
AA 4x14 Bit ± 10 V DC or 0–20 mA

6ES7 232-4HB30-0XB0
6ES7 232-4HD30-0XB0

SM 1234 AI/AQ
AE 4x13 Bit ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 0–20 mA,
AA 2x14 Bit ± 10 V DC or 0–20 mA

6ES7 234-4HE30-0XB0

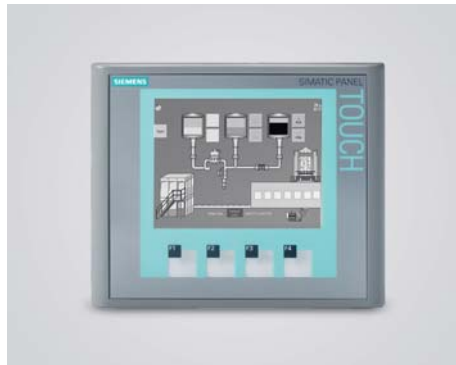
SIMATIC S7-1200 Starter Kits



SIMATIC S7-1200 Starter Kit

CPU 1212C AC/DC/RLY,
Input Simulator,
SIMATIC STEP 7 Basic,
IE TP Cord 2 m,
Documentation Collection CD and more ...

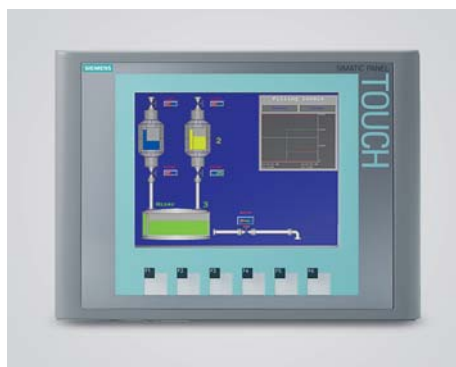
6ES7 212-1BD30-4YB0



SIMATIC S7-1200 + KTP400 Basic Starter Kit

CPU 1212C AC/DC/RLY,
Input Simulator,
KTP400 Basic mono PN,
SIMATIC STEP 7 Basic,
IE TP Cord 2 m,
Documentation Collection CD and more ...

6AV6 651-7AA01-3AA0



SIMATIC S7-1200 + KTP600 Basic Starter Kit

CPU 1212C AC/DC/RLY,
Input Simulator,
KTP600 Basic color PN,
SIMATIC STEP 7 Basic,
IE TP Cord 2 m,
Documentation Collection CD and more ...

6AV6 651-7DA01-3AA0

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www.siemens.com/simatic-s7-1200

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