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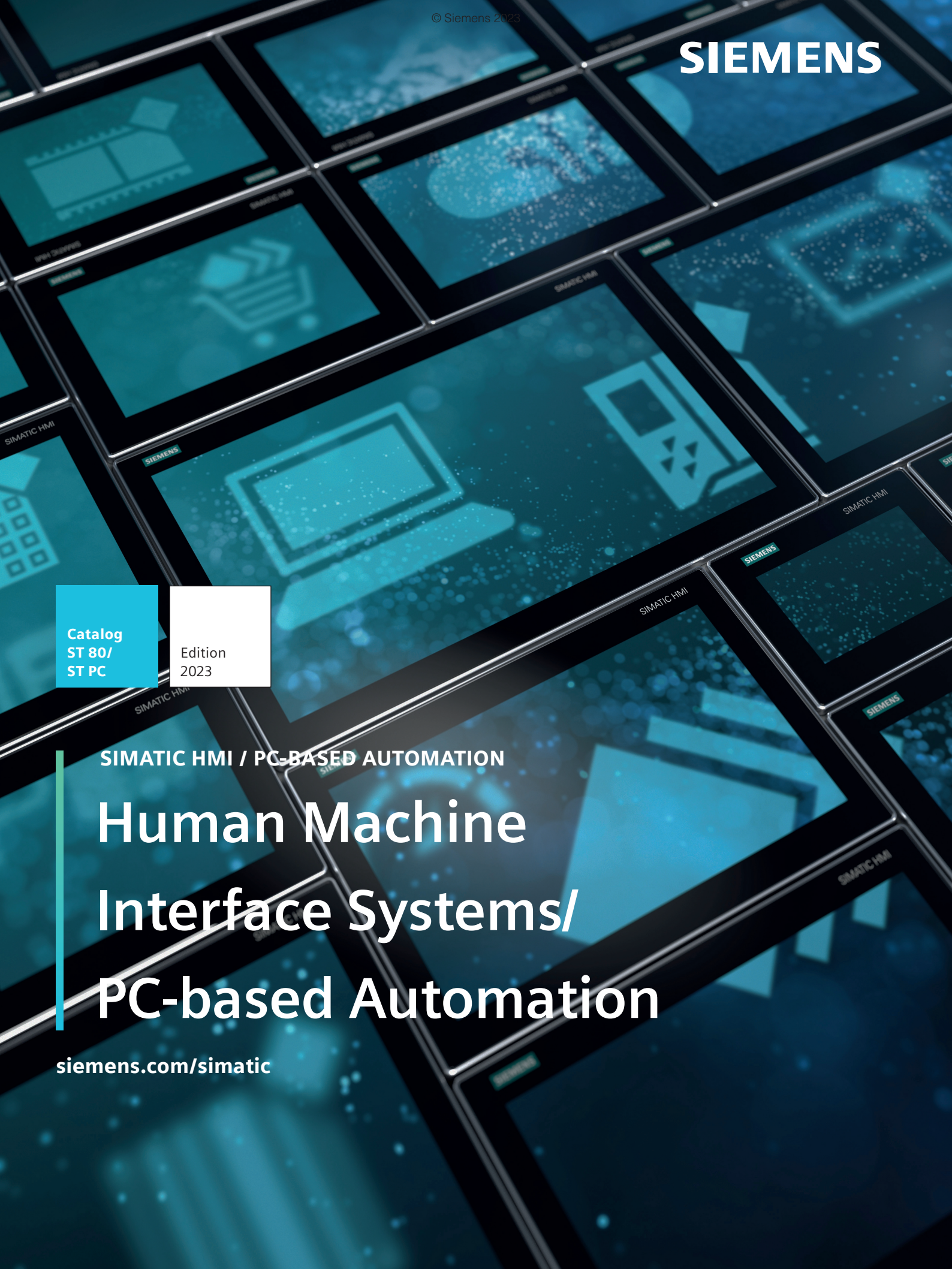


Catalog
ST 80/
ST PC

Edition
2023

SIMATIC HMI / PC-BASED AUTOMATION

Human Machine Interface Systems/ PC-based Automation

siemens.com/simatic

Overview

SIMATIC HMI operator control and monitoring systems – efficient machine-level operator control and monitoring

Equipment for monitoring and operator control is needed wherever people have to work with or on machinery and plants performing diverse tasks from cylinder driers to waste compactors. It is not difficult to find the right device for your specific task. The challenge is to find a solution that is future-proof and flexible, that can be integrated into higher-level networks, and that can also meet the ever-increasing demands for transparency and data provision. SIMATIC HMI Panels have proven their value in a variety of different applications in all industrial sectors over many years. The range of the systems in use is just as wide as that of the applications and technologies in the respective plants.

SIMATIC HMI stands for highly efficient machine-level operator control and monitoring and has some unique advantages:

- Efficient engineering
  Visualization can be created more quickly and easily than ever before.
- Innovative design and operation
  Visualization becomes the outstanding feature of the machine.
- Brilliant HMI operator panels
  The right operator panel for every application.
- Backup – with security
  Protection for investments and know-how, secure operation.
- Commissioning in the fast lane
  Lose no time with testing and servicing.
- Openness with PC-based
  For flexible, independent applications

http://www.siemens.com/hmi

SIMATIC WinCC Unified system – unlimited visualization for every application

SIMATIC WinCC Unified is a totally new visualization system for meeting the challenges of digitalization in machine and plant construction.
State-of-the-art hardware and software technologies make this possible now and in the future. Tried and tested engineering in the TIA Portal, the latest web technology and great reserves of performance for the coming years combined with the freedom to implement your ideas as you imagine them.

http://www.siemens.com/wincc-unified

SIMATIC HMI software – a lot more than just visualization software

With the SIMATIC WinCC (TIA Portal), SIMATIC WinCC and SIMATIC WinCC Open Architecture product families, SIMATIC HMI covers the entire engineering and visualization software spectrum for the human machine interface.

- Almost the entire range of SIMATIC operator panels can be configured with SIMATIC WinCC (TIA Portal), the successor to SIMATIC WinCC flexible.
  The functionality covers both visualization tasks at machine level and SCADA applications on PC-based multi-user systems.
- The current version 7.5 of SIMATIC WinCC is available for extremely complex process visualization tasks and SCADA applications, e.g. taking account of redundant solutions and vertical integration all the way to plant intelligence solutions.
- Ultimately, SIMATIC WinCC Open Architecture addresses applications that require extensive customer-specific adaptations or manage large and/or complex applications, as well as projects that demand special system requirements and functions.

http://www.siemens.com/hmi-software

SIMATIC WinCC Unified visualization software

SIMATIC WinCC Unified software enables access to open interfaces, modern web technologies and consistent integration in order to implement modern visualization concepts simply and easily in the TIA Portal.

http://www.siemens.com/wincc-unified-software

SIMATIC HMI – brilliant and rugged operator panels

Basic HMI – for the entry level

- Key Panels
  Pre-assembled and ready for installation, for conventional operator panels. No configuration required with WinCC!
  http://www.siemens.com/key-panels
- Basic Panels
  The entry level series for simple HMI applications.
  http://www.siemens.com/basic-panels

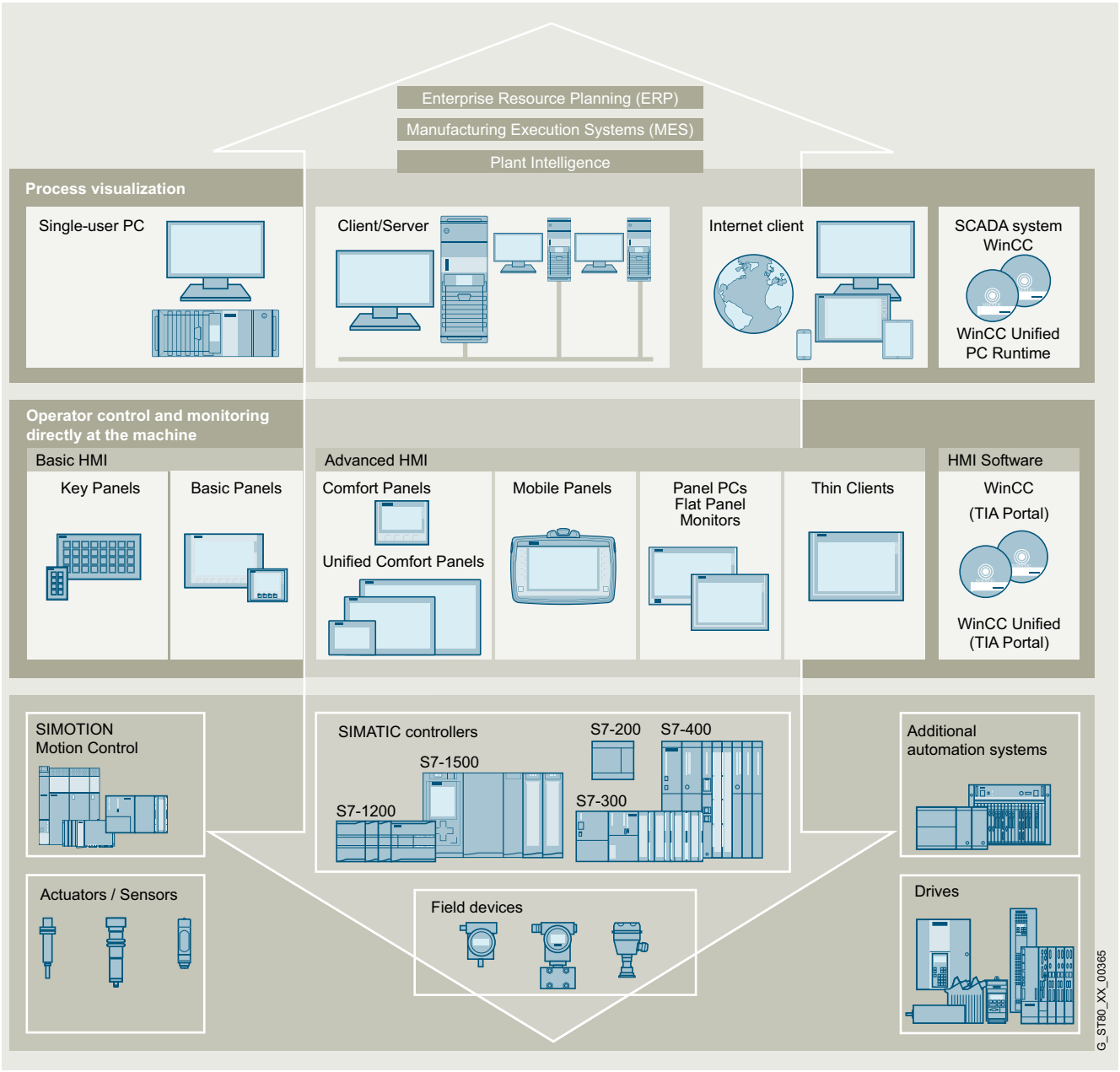
Advanced HMI Panel-based - for higher requirements

- New: SIMATIC HMI Unified Comfort Panels
  High-end performance and state-of-the-art technology for the future of visualization.
  http://www.siemens.com/wincc-unified-hardware
- Comfort Panels
  High-end functionality for demanding indoor and outdoor HMI applications.
  http://www.siemens.com/comfort-panels
- Mobile Panels
  Portable operator panels for mobile deployment on site.
  http://www.siemens.com/mobile-panels

Individual HMI devices in customized versions

http://www.siemens.com/customized-automation

Overview



Overview

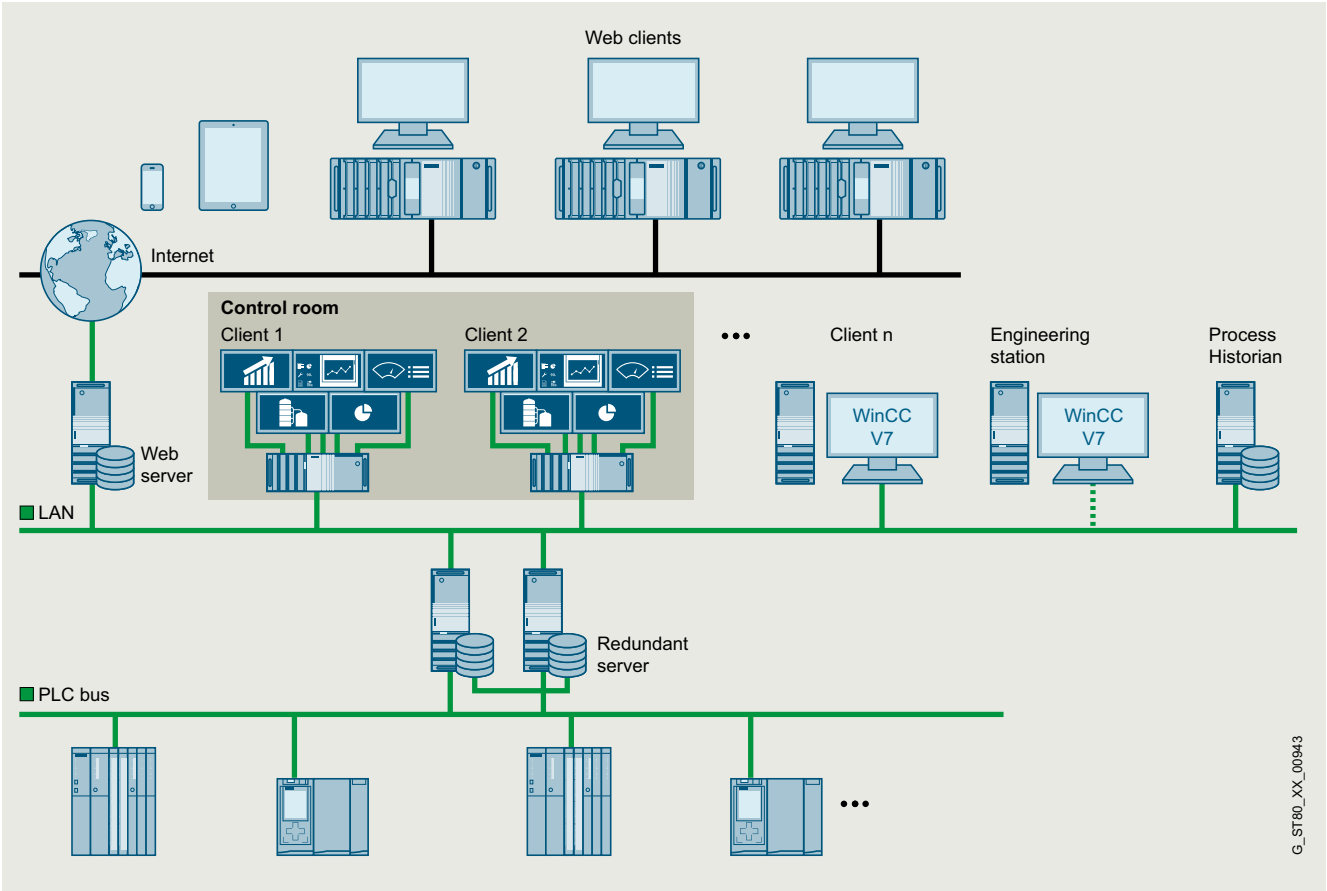
Control system optimizes the productivity of a hot dip galvanizing plant

Reference: V7 control room

As semi-finished products, galvanized steel sheets play a key role in industrial production, such as car manufacturing. One proven method of protecting steel sheets from rust is the application of a zinc coating in a hot dip galvanizing process, in which strips of sheet steel are drawn through a bath containing liquid zinc. Plants for this process are complex and in continuous operation, thus placing high demands on the process control system and the hardware used.

Advantages of the SIMATIC SCADA system and SIMATIC IPC solution:

- SIMATIC WinCC V7/V8 SCADA control system whose scalability and openness also permits the implementation of future functional expansions.
- Redundant setup of the control system and operating stations with industry-compatible SIMATIC industrial PCs and Thin Clients.
- Optimum overview thanks to multi-monitor solution in the control room and more than 27 operating stations throughout the plant and production hall.
- Availability of the production data over a long period in SIMATIC Process Historian for reasons of traceability.
- Increased productivity using long-term analyses of plant availability, productivity, energy consumption and quality.
- More effective support and shorter downtimes thanks to fast, web-based access to plants with the SIMATIC WinCC WebNavigator.



SIMATIC WinCC V7 SCADA control system

Overview

Modernization of a plant in the food and beverage industry on the basis of an integrated automation and visualization solution

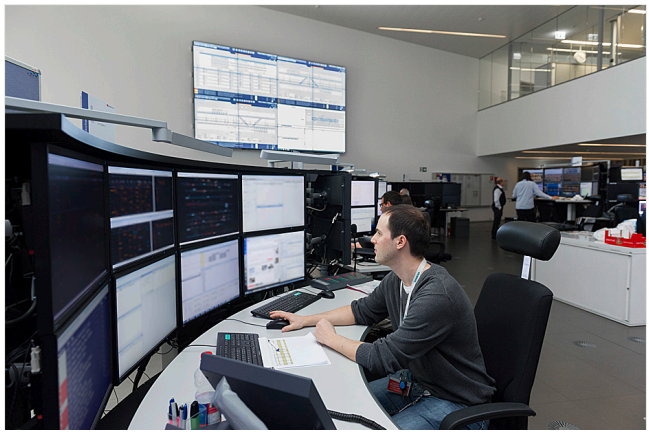
WinCC Professional reference

The modernization involved equipping 3 production lines with an expanded SCADA control system, a new control architecture, converters and motor starters. The project was implemented smoothly, and the integrated hardware and software solution with the TIA Portal enabled the simplification of the engineering process.

Advantages of the solution with the SIMATIC SCADA system WinCC Professional in the TIA Portal, S7-1500 and SIMATIC IPC:

- Simplified application engineering
- Efficient monitoring of the production lines enables the optimal path through the production to be defined for each batch.
- Increased productivity
- Simple and intuitive operation implemented thanks to good visual support
- Better control of the motors involved with the process
- Integration of the production data into the existing ERP system
- Faults in the current process can be easily localized

Tunnel control system for the longest railway tunnel in the world



Control room with WinCC OA

The SIMATIC WinCC Open Architecture tunnel control system is at the heart of the monitoring systems for the entire tunnel infrastructure. Continuous availability of the entire system is essential to ensure the trouble-free operation of the Gotthard Base Tunnel.

The Gotthard Base Tunnel has a tunnel control center at the south and north portals. The two tunnel control systems installed there monitor and control all of the installed systems and plants. All the required data are acquired, collated and visualized on the tunnel control system. A fully integrated maintenance management tool and an operations control system are also part of the tunnel control system with a large screen display.

The advantages of the solution:

- Highest failure safety thanks to the presence of doubly redundant tunnel control equipment – Disaster Recovery System (2x2 redundancy)
- Central monitoring of the infrastructure simplifies fault management
- More efficient operation through central control of the entire infrastructure
- Integration of many (sub-)systems thanks to OPC UA as a standardized interface throughout the entire project
- Optimal user friendliness through uniform user interface across all plants, overview of all systems at one work station as well as large screen display (multi-monitor management)

Overview

Basic Panels 2nd Generation

With their fully developed HMI basic functions, SIMATIC HMI Basic Panels 2nd Generation are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive as well as the manual backup and restoring of the complete panel.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

http://www.siemens.com/basic-panels

Ordering data

Ordering data	Article No.
SIMATIC HMI Basic Panels (2nd Generation)	
Key and touch devices	
SIMATIC HMI KTP400 Basic Key/touch operation; 4" TFT widescreen display, 65 536 colors, PROFINET interface	**6AV2123-2DB03-0AX0**
SIMATIC HMI TP400 Basic Keyless Touch screen operation; 4" TFT widescreen display, 65 536 colors, PROFINET interface	**6AV2143-6DB00-0AA0**
SIMATIC HMI KTP700 Basic Key/touch operation; 7" TFT display, 65 536 colors, PROFINET interface	**6AV2123-2GB03-0AX0**
SIMATIC HMI KTP700 Basic DP Key/touch operation; 7" TFT display, 65 536 colors, PROFIBUS interface	**6AV2123-2GA03-0AX0**
SIMATIC HMI TP700 Basic Keyless Touch screen operation; 7" TFT display, 65 536 colors, PROFINET interface	**6AV2143-6GB00-0AA0**
SIMATIC HMI KTP900 Basic Key/touch operation; 9" TFT display, 65 536 colors, PROFINET interface	**6AV2123-2JB03-0AX0**
SIMATIC HMI TP900 Basic Keyless Touch screen operation; 9" TFT display, 65 536 colors, PROFINET interface	**6AV2143-6JB00-0AA0**
SIMATIC HMI KTP1200 Basic Key/touch operation; 12" TFT display, 65 536 colors, PROFINET interface	**6AV2123-2MB03-0AX0**
SIMATIC HMI KTP1200 Basic DP Key/touch operation; 12" TFT display, 65 536 colors, PROFIBUS interface	**6AV2123-2MA03-0AX0**
Documentation	
You can find the Equipment Manual for the Basic Panels on the Internet at:	http://support.automation.siemens.com
Accessories	See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

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Technical specifications

Article number	**6AV2123-2JB03-0AX0** SIMATIC HMI KTP900 Basic	**6AV2143-6JB00-0AA0** SIMATIC HMI TP900 Basic OEM	**6AV2123-2MB03-0AX0** SIMATIC HMI KTP1200 Basic	**6AV2123-2MA03-0AX0** SIMATIC HMI KTP1200 Basic DP
General information				
Product type designation	KTP900 Basic color PN	TP900 Basic Keyless	KTP1200 Basic color PN	KTP1200 Basic color DP
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	9 in	9 in	12 in	12 in
Number of colors	65 536	65 536	65 536	65 536
Resolution (pixels)				
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel	1 280 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel	800 pixel
Backlighting				
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h	20 000 h
Control elements				
Keyboard fonts				
• Function keys		No		
- Number of function keys	8	0	10	10
Touch operation				
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
• Design as multi-touch screen		No		
• Monitor keyboard		Yes		
Installation type/mounting				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Supply voltage				
Rated value (DC)	24 V	24 V	24 V	24 V
Memory				
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte	10 Mbyte
Type of output				
Acoustics		Buzzer		
• Buzzer	Yes	Yes	Yes	Yes
Time of day				
Clock				
• Software clock	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes
Interfaces				
Number of industrial Ethernet interfaces	1	1	1	0
Number of RS 485 interfaces	0	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; USB 2.0, up to 16 GB respectively	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0	0
Industrial Ethernet				
• Number of ports of the integrated switch		0		

Technical specifications

Article number	**6AV2123-2JB03-0AX0** SIMATIC HMI KTP900 Basic	**6AV2143-6JB00-0AA0** SIMATIC HMI TP900 Basic OEM	**6AV2123-2MB03-0AX0** SIMATIC HMI KTP1200 Basic	**6AV2123-2MA03-0AX0** SIMATIC HMI KTP1200 Basic DP
Protocols				
PROFINET	Yes	Yes	Yes	No
IRT	No	No	No	No
PROFIBUS	No	No	No	Yes
MPI	No	No	No	Yes
Redundancy mode				
Media redundancy				
- MRP	No	No	No	No
Degree and class of protection				
IP (at the front)	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20
NEMA (front)				
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes		Yes	Yes
RCM (formerly C-TICK)	Yes		Yes	Yes
KC approval	Yes		Yes	Yes
Use in hazardous areas				
• ATEX Zone 2	No		No	No
• ATEX Zone 22	No		No	No
• IECEx Zone 2	No		No	No
• IECEx Zone 22	No		No	No
• cULus Class I Zone 2, Division 2	No		No	No
• FM Class I Division 2	No		No	No
Marine approval				
• Germanischer Lloyd (GL)	Yes		Yes	Yes
• American Bureau of Shipping (ABS)	Yes		Yes	Yes
• Bureau Veritas (BV)	Yes		Yes	Yes
• Det Norske Veritas (DNV)	Yes		Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes		Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes		Yes	Yes
• Polski Rejestr Statkow (PRS)	No		No	No
• Chinese Classification Society (CCS)	No		No	No
Ambient conditions				
Suited for indoor use				Yes
Suited for outdoor use				No
Ambient temperature during operation				
Operation (vertical installation)				
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C
Relative humidity				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration				
Configuration software				
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes	Yes

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Technical specifications

Article number	**6AV2123-2JB03-0AX0** SIMATIC HMI KTP900 Basic	**6AV2143-6JB00-0AA0** SIMATIC HMI TP900 Basic OEM	**6AV2123-2MB03-0AX0** SIMATIC HMI KTP1200 Basic	**6AV2123-2MA03-0AX0** SIMATIC HMI KTP1200 Basic DP
Languages				
Online languages				
• Number of online/runtime languages	10	10	10	10
Functionality under WinCC (TIA Portal)				
Applications/options				
• Web browser	Yes	No	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	No	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No	No
Task planner	Yes	Yes	Yes	Yes
• time-controlled	No	No	No	No
• task-controlled	Yes	Yes	Yes	Yes
Message system				
• Bit messages				
- Number of bit messages	1 000	1 000	1 000	1 000
• Analog messages				
- Number of analog messages	25	25	25	25
• Message buffer				
- Number of entries	256	256	256	256
- Circulating buffer	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes
Recipe management				
• Number of recipes	50	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No		No	No
Variables				
• Number of variables per device	800	800	800	800
• Number of variables per screen	100	100	100	100
Images				
• Number of configurable images	250	100	250	250
Archiving				
• Number of archives per device	2; One message and one process value archive	2	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive	10 000	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes	Yes
• Archiving methods				
- Sequential archive	Yes	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes	Yes
• Memory location				
- Memory card	No	No	No	No
- USB memory	Yes	Yes	Yes	Yes
- Ethernet	No	No	No	No
• Data storage format				
- CSV	No	No	No	No
- TXT	Yes	Yes	Yes	Yes
- RDB	No	No	No	No

Technical specifications

Article number	**6AV2123-2JB03-0AX0** SIMATIC HMI KTP900 Basic	**6AV2143-6JB00-0AA0** SIMATIC HMI TP900 Basic OEM	**6AV2123-2MB03-0AX0** SIMATIC HMI KTP1200 Basic	**6AV2123-2MA03-0AX0** SIMATIC HMI KTP1200 Basic DP
Security				
• Number of user groups	50	50	50	50
• Number of users	50		50	50
• SIMATIC Logon	No	No	No	No
Transfer (upload/download)				
• MPI/PROFIBUS DP	No	No	No	Yes
• Ethernet	Yes	Yes	Yes	No
Process coupling				
• S7-1200	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	No
• Allen Bradley (DF1)	No	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	No
• Mitsubishi (FX)	No	No	No	Yes
• OMRON (FINS TCP)	No	No	No	No
• OMRON (LINK/Multilink)	No	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	No
• Modicon (Modbus)	No	No	No	Yes
Peripherals/Options				
Printer	No	No	No	No
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No	No
USB memory	Yes	Yes; USB storage medium can be connected	Yes	Yes
Mechanics/material				
Enclosure material (front)				
• Plastic	Yes	Yes	Yes	Yes
• Aluminum	No	No	No	No
• Stainless steel	No	No	No	No
Dimensions				
Width of the housing front	267 mm	267 mm	330 mm	330 mm
Height of housing front	182 mm	182 mm	245 mm	245 mm
Mounting cutout, width	251 mm	251 mm	310 mm	310 mm
Mounting cutout, height	166 mm	166 mm	221 mm	221 mm
Overall depth	55 mm	55 mm	60 mm	60 mm
Weights				
Weight (without packaging)	1 130 g	1 130 g	1 710 g	1 710 g

More information

More information is available on the Internet at:

http://www.siemens.com/basic-panels

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.