Overview

SIMATIC WinCC V7/V8 SCADA system

WinCC V8.0 seamlessly continues the success story of WinCC V7.x.

On the one hand fully compatible with existing projects, on the other hand with many new functions.
From improvements in engineering to new possibilities in Runtime and WebUX, all the way to data exchange with IT and cloud systems, e.g. via the new REST Connector.

The scalable and open SCADA system for maximum plant transparency and productivity

- Efficiency:
  As a key to greater productivity, SIMATIC WinCC combines efficient engineering with high-performance archiving and maximum data security. With integrated diagnostics functions and flexible production analysis, you shorten the time-to-market and also reduce your plant standstill times. SIMATIC WinCC is the basis for efficient operations management and intelligent production analyses, so it offers a secure basis for deciding on optimization measures, and thus more productivity at lower cost.
- Scalability:
  With SIMATIC WinCC, it is possible to implement plants in all industrial sectors and technologies, and easily expand or modernize them by means of options or add-ons, in functional terms or sector-specifically.
  You can benefit from the redundancy concepts for enhanced availability, or decide on centralized archiving and analysis of plant information. SIMATIC WinCC offers stationary and mobile solutions to cover increasing demands.
- Innovation:
  With innovative technology, you have all the important information in view at all times. In this way, SIMATIC WinCC simplifies intuitive operation and monitoring of the production plant – even remotely. Stay informed with mobile SCADA solutions anywhere and at any time – including with existing tablet and smartphone hardware.
  The use of multi-touch gestures in the industrial environment opens the door to modern operator concepts.
- Openness:
  Since international standards and system-internal script and programming interfaces are supported, special requests can also be easily implemented.
  SIMATIC WinCC backs cross-manufacturer communication for integrating existing hardware, as well as for simple integration into the IT world. WinCC specialists are available worldwide as qualified solution providers. These certified and centrally audited partners are ready to implement your individual SCADA project even in diversified client-server architectures with redundancy, or in applications with energy data management systems.
  SIMATIC WinCC is designed to be independent of any specific technology or industrial sector, modular in structure, and easy to expand. It is used worldwide in single-user applications in mechanical engineering, as well as in complex multi-user solutions with redundant servers or Web-based client access. References from many industries prove the versatility and performance capability.

http://www.siemens.com/wincc-v7

Overview

SIMATIC WinCC V8

- PC-based operator control and monitoring system for visualizing and operating processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems with redundant servers and cross-location solutions with web clients. WinCC is the information hub for corporation-wide vertical integration.
- The basic system configuration (WinCC Basic Software) includes industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration and visualization.
- The WinCC Basic Software forms the core of a wide range of different applications. Based on the open programming interfaces, a wide range of WinCC options (from Siemens Industry Automation) and WinCC Add-ons have been developed (by Siemens-internal and external partners).
- WinCC can be operated with every PC that meets the given HW requirements. The SIMATIC IPC product range is available in particular for the industrial use of WinCC systems. SIMATIC IPCs impress with their powerful PC technology, are designed for round-the-clock operation, and can be operated in both office areas and harsh industrial environments.

Current version:

SIMATIC WinCC V8.0

WinCC V8.0 supports the Microsoft operating systems listed below:

- Windows 11 Professional, Enterprise (64-bit)
- Windows 10 Professional, Enterprise (64-bit)
- Windows Server 2022 Standard, Datacenter (64-bit)
- Windows Server 2019 Standard, Datacenter (64-bit)

For details (e.g. information about specific Windows editions) and, if applicable, updated compatibility statements, see:

https://support.industry.siemens.com/kompatool/index.html?lang=de&TopicID=WinCC_V8_0

SIMATIC SCADA and SIMATIC IPCs

Perfect interaction for optimum productivity.

- Price advantage as "Package" comprising hardware and software
- System-tested solutions reduce testing overhead
- Simple ordering and synchronized logistics

Only if ordered together with the SIMATIC IPC.

Benefits

- All-purpose
  - Solutions for all sectors
  - Multi-language for worldwide usage
  - Can be integrated into all automation solutions
- All operator control & monitoring functions on board
  - User administration
  - Operator control and monitoring
  - Reporting, acknowledging, and archiving of events
  - Collecting, consolidating and archiving measured values (including long-term backup)
  - Logging and documenting of process and configuration data
- Can be configured simply and efficiently
  - Configuration wizards let the user focus on the essentials
  - In the picture by means of cross-reference lists and screen property displays
  - Configuration of multi-language applications
  - Configuration tool for configuring bulk data
- Universally scalable
  - Expandable from single station to client-server configurations
  - Increased availability by means of redundant servers
  - Process visualization via the Web with the WinCC WebNavigator or WebUX
- Open standards for simple integration
  - Efficient real-time database MS SQL Server
  - Open for application modules with ActiveX and web controls
  - Powerful scripting for individual extensions
  - OPC, MQTT and REST for cross-vendor communication
- Process visualization with Plant Intelligence
  - Integrated evaluation functions for the online analysis (statistical process control)
  - Production optimization with the help of diverse options
- Expandable using options and add-ons
  - Options for scalable configurations
  - Options for increasing the availability
  - Options for IT & business integration
  - Options for SCADA expansions
  - Options for validation in accordance with FDA 21 CFR Part 11
  - Options for the use of telecontrol protocols
- Part of Totally Integrated Automation
  - Direct access to the tag and message configuration of the SIMATIC control system
  - Integrated diagnostic functions for increasing productivity

Application

SIMATIC WinCC is designed for visualization and operation of processes, production flows, machines and plants. With its powerful process interface, especially to the SIMATIC family, and the secure data archiving, WinCC enables highly available solutions for the process control.

The sector-neutral basic system enables universal usage in all automation applications. Sector-specific solutions can, for example, be implemented using WinCC options (e.g. FDA options for the pharmaceutical industry) and sector-specific add-ons (e.g. for the water industry).

Design

SIMATIC WinCC is available as a complete package and as a runtime package with 128, 512, 2 048, 8 192, 65 536, 102 400, 153 600, 262 144 PowerTags. PowerTags are data points that are connected to controllers or other data sources over a WinCC channel. Up to 32 alarms can be obtained from one data point. Moreover, internal tags without coupling are available for additional system performance. In addition WinCC also contains 512 archive tags. Additional archive licenses can be obtained for larger quantity structures.

Licenses for a multi-user configuration

The system software with the required number of PowerTags and additionally the option WinCC/Server must be installed on the WinCC server. In the basic configuration, one RT Client License is sufficient for the WinCC Clients [1].

An RC Client License is required to configure on clients [1]. Remote configuration is possible if WinCC Clients without their own project (Uni Client) are configured on the server project.

[1] The SQL Server Express is installed for RT / RC Clients.

Function

The powerful configuration functions of SIMATIC WinCC contribute to a reduced engineering and training overhead and lead to a more flexible use of personnel and greater operational reliability.

Anyone familiar with Microsoft Windows can also operate the WinCC Explorer, the central switching point of WinCC. Even large quantities of data can be processed intuitively and efficiently with the WinCC Configuration Studio.

In combination with other SIMATIC components, the system is also equipped with supplementary functions, such as process diagnostics and maintenance. All SIMATIC engineering tools work together in the configuration of the functions.

SIMATIC WinCC offers a complete basic functionality for process visualization and operation. To this end WinCC has a number of editors and interfaces that can be used to individually configure this functionality according to the respective application. Expansions of a WinCC station for control tasks are also possible with minimal engineering effort.

Interfaces

	Task or configurable runtime functionality
Communication channels	For communication with lower-level controllers/field devices: S7-300/400, S7-1200/1500, OPC, OPC UA, SIMATIC S5, Modbus TCP, Allen Bradley, Mitsubishi, Omron, Sinumerik, etc.
Standard interfaces	For connecting other IT applications to WinCC: OLE-DB, OPC UA, MQTT, REST, etc.
Programming interfaces	For the individual access to data and functions of WinCC and for the integration in user programs with VBA, VB Script, C-API (ODK), C-Script (ANSI-C)

Integration

Archiving and data exchange

WinCC integrates a powerful and scalable archiving feature using database technology This provides the user with a variety of options: from high-performance archiving of current process data, to long-term archiving with high data compression, through to a connection to the central information hub in the form of a company-wide Process Historian. Versatile clients and tools for evaluation, the open interfaces, and special options (Connectivity Pack, Connectivity Station, IndustrialDataBridge) provide the basis for effective IT and business integration.

WinCC offers various security mechanisms, such as encrypted communication, to ensure secure operation of the plant.
If external networks are accessed, for example, suitable protective measures (incl. IT security measures, such as network segmentation) should still also be taken.

More information is available on the topic of Industrial Security on the Internet at:

http://www.siemens.com/industrialsecurity

Integration in automation solutions

WinCC is an open process visualization system and provides the option to connect the most diverse controllers.

S7 communication software

Use communications software with the listed product versions. Corresponding SIMATIC NET upgrades are available for upgrading older versions.

Connection to third-party controllers

If a native driver is not available, OPC or OPC UA is available for connection to third-party controllers.

Current notes and information about OPC Servers from various suppliers can be found at:

http://www.opcfoundation.org

WinCC supports:

- OPC UA server for DA, A&C, and HDA
- OPC server for DA, A&E, and HDA
- OPC UA client for DA, A&C, and methods
- OPC client for DA

Ordering data	Article No.
SIMATIC WinCC system software	
V8.0	
Runtime Packages on DVD	
Incl. 512 archive tags each; language/script versions: en, de, fr, it, es; with license for	
• WinCC RT Client	**6AV6381-2CA08-0AX0**
• 128 PowerTags (RT 128)	**6AV6381-2BC08-0AX0**
• 512 PowerTags (RT 512)	**6AV6381-2BD08-0AX0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE08-0AX0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH08-0AX0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF08-0AX0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ08-0AX0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK08-0AX0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL08-0AX0**
As download	
• WinCC RT Client	**6AV6381-2CA08-0AH0**
• 128 PowerTags (RT 128)	**6AV6381-2BC08-0AH0**
• 512 PowerTags (RT 512)	**6AV6381-2BD08-0AH0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE08-0AH0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH08-0AH0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF08-0AH0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ08-0AH0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK08-0AH0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL08-0AH0**
Complete packages on DVD	
Language versions: en, de, fr, it, es; with license for	
• WinCC RC Client	**6AV6381-2CB08-0AX0**
• 128 PowerTags (RC 128)	**6AV6381-2BM08-0AX0**
• 512 PowerTags (RC 512)	**6AV6381-2BN08-0AX0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP08-0AX0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS08-0AX0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ08-0AX0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT08-0AX0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU08-0AX0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV08-0AX0**
As download	
• WinCC RC Client	**6AV6381-2CB08-0AH0**
• 128 PowerTags (RC 128)	**6AV6381-2BM08-0AH0**
• 512 PowerTags (RC 512)	**6AV6381-2BN08-0AH0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP08-0AH0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS08-0AH0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ08-0AH0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT08-0AH0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU08-0AH0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV08-0AH0**

Ordering data	Article No.
V8.0 ASIA	
Runtime Packages on DVD	
Language/script versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RT Client	**6AV6381-2CA08-0AV0**
• 128 PowerTags (RT 128)	**6AV6381-2BC08-0AV0**
• 512 PowerTags (RT 512)	**6AV6381-2BD08-0AV0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE08-0AV0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH08-0AV0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF08-0AV0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ08-0AV0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK08-0AV0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL08-0AV0**
Complete packages on DVD	
Language versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RC Client	**6AV6381-2CB08-0AV0**
• 128 PowerTags (RC 128)	**6AV6381-2BM08-0AV0**
• 512 PowerTags (RC 512)	**6AV6381-2BN08-0AV0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP08-0AV0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS08-0AV0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ08-0AV0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT08-0AV0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU08-0AV0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV08-0AV0**
V8.0 PowerPacks	
For upgrading from:	
Runtime Packages	
• 128 to 512 PowerTags	**6AV6371-2BD08-0AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG08-0AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM08-0AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN08-0AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP08-0AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ08-0AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR08-0AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD08-0AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG08-0AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM08-0AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN08-0AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP08-0AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ08-0AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR08-0AJ0**
Complete packages	
• 128 to 512 PowerTags	**6AV6371-2BD18-0AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG18-0AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM18-0AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN18-0AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP18-0AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ18-0AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR18-0AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD18-0AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG18-0AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM18-0AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN18-0AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP18-0AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ18-0AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR18-0AJ0**

Ordering data	Article No.
V8.0 Archive	
• 1 500 archive tags (countable)	**6AV6371-1DQ18-0AX0**
• 5 000 archive tags (countable)	**6AV6371-1DQ18-0BX0**
• 10 000 archive tags (countable)	**6AV6371-1DQ18-0CX0**
• 30 000 archive tags (countable)	**6AV6371-1DQ18-0EX0**
As download	
• 1 500 archive tags (countable)	**6AV6371-1HQ18-0AX0**
• 5 000 archive tags (countable)	**6AV6371-1HQ18-0BX0**
• 10 000 archive tags (countable)	**6AV6371-1HQ18-0CX0**
• 30 000 archive tags (countable)	**6AV6371-1HQ18-0EX0**
SIMATIC WinCC software packages for IPC	
SIMATIC WinCC V8.0 Runtime	
• WinCC RT Client	**6AV6382-2AA08-0AX0**
• 128 PowerTags	**6AV6382-2CA08-0AX0**
• 512 PowerTags	**6AV6382-2DA08-0AX0**
• 2048 PowerTags	**6AV6382-2EA08-0AX0**
• 8192 PowerTags	**6AV6382-2HA08-0AX0**
• 65536 PowerTags	**6AV6382-2FA08-0AX0**
SIMATIC WinCC V8.0 Runtime ASIA	
• WinCC RT Client	**6AV6382-2AA08-0AV0**
• 128 PowerTags	**6AV6382-2CA08-0AV0**
• 512 PowerTags	**6AV6382-2DA08-0AV0**
• 2048 PowerTags	**6AV6382-2EA08-0AV0**
• 8192 PowerTags	**6AV6382-2HA08-0AV0**
• 65536 PowerTags	**6AV6382-2FA08-0AV0**
SIMATIC WinCC Upgrades/ Software Update Service	
SIMATIC WinCC V8.0 Upgrade [1) 2)]	
For upgrading the RT version	
• From V7.5 to V8.0	**6AV6381-2AA08-0AX4**
• From V7.3/V7.4 to V8.0	**6AV6381-2AA08-0AX3**
As download	
• From V7.5 to V8.0	**6AV6381-2AA08-0AK4**
• From V7.3/V7.4 to V8.0	**6AV6381-2AA08-0AK3**
For upgrading the RC version	
• From V7.5 to V8.0	**6AV6381-2AB08-0AX4**
• From V7.3/V7.4 to V8.0	**6AV6381-2AB08-0AX3**
As download	
• From V7.5 to V8.0	**6AV6381-2AB08-0AK4**
• From V7.3/V7.4 to V8.0	**6AV6381-2AB08-0AK3**
For upgrading the Client RT version	
• From V7.5 to V8.0	**6AV6381-2CA08-0AX4**
• From V7.3/V7.4 to V8.0	**6AV6381-2CA08-0AX3**
As download	
• From V7.5 to V8.0	**6AV6381-2CA08-0AK4**
• From V7.3/V7.4 to V8.0	**6AV6381-2CA08-0AK3**
For upgrading the Client RC version	
• From V7.5 to V8.0	**6AV6381-2CB08-0AX4**
• From V7.3/V7.4 to V8.0	**6AV6381-2CB08-0AX3**
As download	
• From V7.5 to V8.0	**6AV6381-2CB08-0AK4**
• From V7.3/V7.4 to V8.0	**6AV6381-2CB08-0AK3**
SIMATIC WinCC Software Update Service (SUS) [3) 4)]	
SIMATIC WinCC V8 Update	
Software Update Service for WinCC basic software and options:	
• 1 license	**6AV6381-1AA00-0AX5**
• 3 licenses	**6AV6381-1AA00-0BX5**
• 10 licenses	**6AV6381-1AA00-0CX5**
As download	
• 1 license	**6AV6381-1KA00-0AX5**
• 3 licenses	**6AV6381-1KA00-0BX5**
• 10 licenses	**6AV6381-1KA00-0CX5**

1) According to licensing provisions, 1 upgrade package must be ordered for each WinCC station

2) The upgrade from V7.X RT/RC ASIA to V8.0 ASIA is performed via the "standard package"

3) The Software Update Service is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration. In accordance with the license conditions, 1 Software Update Service each must be ordered per WinCC station.

4) Requires the current software version

Ordering data

	Article No.
SIMATIC WinCC V8.0 communication via Industrial Ethernet/PROFIBUS	
SOFTNET-IE S7 Version 18 Software for S7 and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC, up to 64 connections; single license for one installation of runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 1612 A2; English/German	
• Single license for 1 installation	**6GK1704-1CW18-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1CW00-3AE0**
SOFTNET-IE S7 Lean Version 18 (license included in scope of supply of WinCC V8.0) Software for S7 and S5-compatible communication including OPC Server, PG/OP communication and NCM PC; up to 8 connections; single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A For CP 1612 A2, English/German	
• Single license for 1 installation	**6GK1704-1LW18-0AA0**
CP 1623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1162-3AA00**
HARDNET-IE S7 V18 Software for S7 and S5-compatible communication incl. OPC Server, PG/OP communication and NCM PC, single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 1613 A2, CP 1623, CP 1628; English/German	
• Single license for 1 installation	**6GK1716-1CB18-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1716-1CB00-3AE0**

	Article No.
Communication via PROFIBUS	
CP 5612 PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)	**6GK1561-2AA00**
CP 5622 PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)	**6GK1562-2AA00**
CP 5711 USB adapter for connecting a PG/PC to PROFIBUS or MPI (communications software included in WinCC Basic Package)	**6GK1571-1AA00**
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-4AA02**
CP 5623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1562-3AA00**
HARDNET-PB S7 Software for S7 communication incl. PG/OP communication, FDL, OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 5613 A3, CP 5614 A3, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5CB18-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5CB00-3AE0**
HARDNET-PB DP Software for DP protocol incl. PG/OP communication, FDL, DP OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A3, CP 5614 A3, CP 5623; English/German	
• Single license for 1 installation	**6GK1713-5DB18-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5DB00-3AE0**

3

Ordering data	Article No.
SIMATIC WinCC system software	
V7.5 SP2	
Runtime Packages on DVD	
Incl. 512 archive tags each; language/script versions: en, de, fr, it, es; with license for	
• WinCC RT Client	**6AV6381-2CA07-5AX0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-5AX0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-5AX0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-5AX0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-5AX0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-5AX0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-5AX0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-5AX0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-5AX0**
As download	
• WinCC RT Client	**6AV6381-2CA07-5AH0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-5AH0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-5AH0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-5AH0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-5AH0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-5AH0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-5AH0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-5AH0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-5AH0**
Complete packages on DVD	
Language versions: en, de, fr, it, es; with license for	
• WinCC RC Client	**6AV6381-2CB07-5AX0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-5AX0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-5AX0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-5AX0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-5AX0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-5AX0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-5AX0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-5AX0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-5AX0**
As download	
• WinCC RC Client	**6AV6381-2CB07-5AH0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-5AH0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-5AH0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-5AH0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-5AH0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-5AH0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-5AH0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-5AH0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-5AH0**

	Article No.
V7.5 SP2 ASIA	
Runtime Packages on DVD	
Language/script versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RT Client	**6AV6381-2CA07-5AV0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-5AV0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-5AV0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-5AV0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-5AV0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-5AV0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-5AV0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-5AV0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-5AV0**
Complete packages on DVD	
Language versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RC Client	**6AV6381-2CB07-5AV0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-5AV0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-5AV0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-5AV0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-5AV0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-5AV0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-5AV0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-5AV0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-5AV0**
V7.5 SP2 PowerPacks	
For upgrading from:	
Runtime Packages	
• 128 to 512 PowerTags	**6AV6371-2BD07-5AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG07-5AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM07-5AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN07-5AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP07-5AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ07-5AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR07-5AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD07-5AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG07-5AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM07-5AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN07-5AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP07-5AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ07-5AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR07-5AJ0**
Complete packages	
• 128 to 512 PowerTags	**6AV6371-2BD17-5AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG17-5AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM17-5AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN17-5AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP17-5AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ17-5AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR17-5AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD17-5AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG17-5AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM17-5AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN17-5AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP17-5AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ17-5AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR17-5AJ0**

Ordering data	Article No.
V7.5 SP2 archives	
• 1 500 archive tags (countable)	**6AV6371-1DQ17-5AX0**
• 5 000 archive tags (countable)	**6AV6371-1DQ17-5BX0**
• 10 000 archive tags (countable)	**6AV6371-1DQ17-5CX0**
• 30 000 archive tags (countable)	**6AV6371-1DQ17-5EX0**
As download	
• 1 500 archive tags (countable)	**6AV6371-1HQ17-5AX0**
• 5 000 archive tags (countable)	**6AV6371-1HQ17-5BX0**
• 10 000 archive tags (countable)	**6AV6371-1HQ17-5CX0**
• 30 000 archive tags (countable)	**6AV6371-1HQ17-5EX0**
SIMATIC WinCC software packages for IPC	
SIMATIC WinCC V7.5 SP2 Runtime	
• WinCC RT Client	**6AV6382-2AA07-5AX0**
• 128 PowerTags	**6AV6382-2CA07-5AX0**
• 512 PowerTags	**6AV6382-2DA07-5AX0**
• 2 048 PowerTags	**6AV6382-2EA07-5AX0**
• 8 192 PowerTags	**6AV6382-2HA07-5AX0**
• 65 536 PowerTags	**6AV6382-2FA07-5AX0**
SIMATIC WinCC V7.5 SP2 Runtime ASIA	
• WinCC RT Client	**6AV6382-2AA07-5AV0**
• 128 PowerTags	**6AV6382-2CA07-5AV0**
• 512 PowerTags	**6AV6382-2DA07-5AV0**
• 2 048 PowerTags	**6AV6382-2EA07-5AV0**
• 8 192 PowerTags	**6AV6382-2HA07-5AV0**
• 65 536 PowerTags	**6AV6382-2FA07-5AV0**

	Article No.
SIMATIC WinCC Upgrades/ Software Update Service	
SIMATIC WinCC V7.5 SP2 Upgrade [1]	
For upgrading the RT version	
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2AA07-5AX3**
• From V7.4 to V7.5 SP2	**6AV6381-2AA07-5AX4**
• From V7.2/7.3 ASIA to V7.5 SP2 ASIA [2]	**6AV6381-2AA07-5AV3**
• From V7.4 ASIA to V7.5 SP2 ASIA [2]	**6AV6381-2AA07-5AV4**
As download	
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2AA07-5AK3**
• From V7.4 to V7.5 SP2	**6AV6381-2AA07-5AK4**
For upgrading the RC version	
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2AB07-5AX3**
• From V7.4 to V7.5 SP2	**6AV6381-2AB07-5AX4**
• From V7.2/7.3 ASIA to V7.5 SP2 ASIA [2]	**6AV6381-2AB07-5AV3**
• From V7.4 ASIA to V7.5 SP2 ASIA [2]	**6AV6381-2AB07-5AV4**
As download	
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2AB07-5AK3**
• From V7.4 to V7.5 SP2	**6AV6381-2AB07-5AK4**
For upgrading the Client RT version	
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2CA07-5AX3**
• From V7.4 to V7.5 SP2	**6AV6381-2CA07-5AX4**
• From V7.2/7.3 ASIA to V7.5 SP2 ASIA	**6AV6381-2CA07-5AV3**
• From V7.5 ASIA to V7.5 SP2 ASIA	**6AV6381-2CA07-5AV4**
As download	
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2CA07-5AK3**
• From V7.4 to V7.5 SP2	**6AV6381-2CA07-5AK4**
For upgrading the Client RC version	
• From V7.2/7.3 to V7.4 SP2	**6AV6381-2CB07-5AX3**
• From V7.4 to V7.5 SP2	**6AV6381-2CB07-5AX4**
• From V7.2/7.3 ASIA to V7.5 SP2 ASIA	**6AV6381-2CB07-5AV3**
• From V7.4 ASIA to V7.5 SP2 ASIA	**6AV6381-2CB07-5AV4**
As download	
• From V7.2/7.3 to V7.4 SP2	**6AV6381-2CB07-5AK3**
• From V7.2/7.3 to V7.5 SP2	**6AV6381-2CB07-5AK3**
• From V7.4 to V7.5 SP2	**6AV6381-2CB07-5AK4**
SIMATIC WinCC Software Update Service (SUS) [3] [4] [5]	
SIMATIC WinCC V7 Update	
Software Update Service for WinCC basic software and options:	
• 1 license	**6AV6381-1AA00-0AX5**
• 3 licenses	**6AV6381-1AA00-0BX5**
• 10 licenses	**6AV6381-1AA00-0CX5**
As download	
• 1 license	**6AV6381-1KA00-0AX5**
• 3 licenses	**6AV6381-1KA00-0BX5**
• 10 licenses	**6AV6381-1KA00-0CX5**

[1] According to licensing provisions, 1 upgrade package must be ordered for each WinCC station

[2] Upgrading from V7.X RT/RC ASIA to V7.5 ASIA is carried out using the "respective non-Asia Package"

[3] The Software Update Service is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration. According to licensing provisions, 1 Software Update Service must be ordered for each WinCC station.

[4] Requires the current software version

[5] SUS is available as download

3

Ordering data	Article No.
SIMATIC WinCC V7.5 SP2 communication	
Communication via Industrial Ethernet/PROFIBUS	
SOFTNET-IE S7 Version 16 Software for S7 and S5-compatible communication incl. OPC Server, PG/OP communication and NCM PC; up to 64 connections; single license for one installation of Runtime software, software and electronic manual on CD-ROM; license key on USB flash drive, Class A For CP 1612 A2 English/German	
• Single license for 1 installation	**6GK1704-1CW16-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1CW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1CW00-3AE1**
SOFTNET-IE S7 Lean Version 16 (license included in scope of supply of WinCC V7.5 SP2) Software for S7 and S5-compatible communication including OPC Server, PG/OP communication and NCM PC; up to 8 connections; single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A For CP 1612 A2, English/German	
• Single license for 1 installation	**6GK1704-1LW16-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1LW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1LW00-3AE1**
CP 1623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1162-3AA00**
HARDNET-IE S7 V16 Software for S7 and S5-compatible communication incl. OPC Server, PG/OP communication and NCM PC, single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 1613 A2, CP 1623, CP 1628; English/German	
• Single license for 1 installation	**6GK1716-1CB16-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1716-1CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1716-1CB00-3AE1**

	Article No.
Communication via PROFIBUS	
CP 5612 PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)	**6GK1561-2AA00**
CP 5622 PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)	**6GK1562-2AA00**
CP 5711 USB adapter for connecting a PG/PC to PROFIBUS or MPI (communications software included in WinCC Basic Package)	**6GK1571-1AA00**
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-4AA02**
CP 5623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1562-3AA00**
HARDNET-PB S7 Software for S7 communication incl. PG/OP communication, FDL, OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 5613 A3, CP 5614 A3, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5CB16-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5CB00-3AE1**
HARDNET-PB DP Software for DP protocol incl. PG/OP communication, FDL, DP OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A3, CP 5614 A3, CP 5623; English/German	
• Single license for 1 installation	**6GK1713-5DB16-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5DB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5DB00-3AE1**

Technical specifications

Type	SIMATIC WinCC V8.0
PC hardware requirements	
Processor type	
• Minimum	Single-user station/server: Dual-core; 2.5 GHz
	Client: Dual-core; 2.5 GHz
• Recommended	Single-user station/server: Multi-core; 3.5 GHz
	Client: Multi-core; 3 GHz [2)]
Work memory RAM	
• Minimum	Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 2 GB
	Windows Server 2019 / Windows Server 2022 Server: 4 GB
• Recommended	Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 4 GB
	Windows Server 2019 / Windows Server 2022 Server: 8 GB
Graphics resolution	
• Minimum	1 024 x 768
• Recommended	1 920 x 1 080
Hard disk	
• Minimum	Single-user station/server: 80 GB
	Client: 20 GB
	WebClient/DataMonitor Client: 5 GB
• Recommended	Single-user station/server: 160 GB
	Client: 40 GB
	WebClient/DataMonitor Client: 10 GB
DVD-ROM/USB interface	For software installation and license transfer

More information

WinCC language versions

SIMATIC WinCC is also offered in simplified Chinese, traditional Chinese, Korean and Japanese especially for Asian markets. These WinCC versions are intended for machine manufacturers, plant constructors and exporters who supply the regions of China, Taiwan, Korea and Japan.

WinCC ASIA includes all familiar WinCC functions and offers in addition the configuration user interface in the respective national language and English. The online help is available in simplified Chinese, traditional Chinese, Korean, Japanese and English. A Chinese, Korean, Japanese or multilingual Windows operating system is required for operation.

The runtime licenses are language-neutral. The English handling program (Automation License Manager – ALM) is executable under the Chinese, Korean and Japanese Windows versions.

In order to use the Asian languages in WinCC, an Asia hardware dongle is required.

IPC packages

There are attractive packages available with SIMATIC Rack PCs (IPC347, IPC547, IPC647, IPC847), SIMATIC Box PCs (IPC227, IPC427, IPC627, IPC827) and SIMATIC Panel PCs (IPC277, IPC477, IPC677) for a completely matched software and hardware package. These IPCs can be configured in different ways for use as single station, server or client.

http://www.siemens.com/scada-ipc

Downloads:

In most cases, the products can also be obtained as software downloads.

You can find more information on the Software Update Service, license forms, Online Software Delivery and handling your SW licenses with the Automation License Manager here:

http://www.siemens.com/simatic-licenses

Overview

The universal WinCC Basic Software is the basis for modular expansions. These functional expansions can be obtained in the form of WinCC options and as WinCC Premium add-ons.

WinCC options are created by WinCC Development and are Siemens Industry Automation products. You can obtain support from our Advisory Services and via the central hotline.

Options for scalable plant configurations

- WinCC/Server
  For configuring a powerful client/server system
- WinCC/Redundancy
  For increasing system availability through redundancy
- WinCC Web Navigator
  For operator control and monitoring of plants via the Internet, in-house intranet or LAN
- WinCC WebUX
  HTML5 client access for operator control and monitoring of plants, independent of platforms and web browsers, via the Internet, in-house intranet or LAN
- SIMATIC Process Historian
  Central, scalable long-term archive for the whole plant
- SIMATIC TeleControl
  For connecting outlying stations (remote terminal units = RTUs) via telecontrol protocols in a WinCC SCADA system

Options for greater efficiency in operations management

- WinCC /User Archives
  For managing data records in user archives
- WinCC/DataMonitor
  For displaying and evaluating current process states and historical data on office PCs with standard tools
- WinCC/Performance Monitor
  For analysis and optimization of production on the basis of individual performance indicators
- WinCC/Audit
  - Change management
  - Generation of Audit Trails for engineering and runtime
- WinCC/Calendar Scheduler
  Calendar-based planning of events
- WinCC/ChangeControl
  - Change and version management
  - Generation of Audit Trails for engineering
- WinCC/Event Notifier
  For sending of notifications triggered by specific events in the WinCC message system
- SIMATIC Information Server
  Web-based, integrated reporting from production to management, based on archived data

Options for openness and individual system expansions

- WinCC/Connectivity Pack
  Access to WinCC logs via OPC HDA, OPC A&E, OPC XML Server, OPC UA Server/Client and WinCC OLE DB /OLE DB, Cloud Connect via MQTT, REST API and REST Connector
- WinCC/Connectivity Station
  Gateway to WinCC server data via OPC HDA, OPC A&E, OPC UA Server/Client, and WinCC OLE DB /OLE DB from independent computers
- WinCC IndustrialDataBridge
  Configurable connection to databases and IT systems
- WinCC/ODK (Open Development Kit)
  For the use of open programming interfaces and the generation of customer-specific WinCC ActiveX objects

More information

SIMATIC WinCC options

http://www.siemens.com/simatic-wincc-options

Overview

SIMATIC TeleControl

SIMATIC TeleControl for WinCC supports connection to outlying stations (Remote Terminal Units = RTUs) via telecontrol protocols.

- SIMATIC TeleControl V7.4 has been released for use with WinCC V7.4.
- For compatibility with WinCC 7.4 SP1, use TeleControl V7.4 update 1
- SIMATIC TeleControl V7.4 supports the combination with WinCC as a Windows service

Licenses

- SIMATIC TeleControl for WinCC consists of an engineering and a runtime component
- The engineering software is supplied with a floating license. The floating license allows installation of the software on any number of computers. This means one user per license can use the software independently of the computer used or a specific workstation.
- The runtime software is supplied as a single license for one server and allows a specific number of stations to be connected depending on the license.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here:
http://www.siemens.com/simatic-licenses

Benefits

SIMATIC TeleControl for WinCC V7.4 can not only integrate newly configured RTUs, but it can also integrate units which already exist in outlying areas by means of DNP3 or IEC 870-5-101/104 drivers. For communication with the outstations, SIMATIC TeleControl for WinCC V7.4 uses the SINAUT ST7 and DNP3 protocols (both via serial and TCP/IP communication connections) as well as IEC 870-5-101 (serial) and IEC 870-5-104 (Ethernet TCP/IP).

The serial RTU link is possible via the following components, which can be connected directly via WinCC (single station or server):

- SINAUT TIM communication modules (SINAUT ST7 telecontrol protocol)
- TCP/IP serial converter (telecontrol protocols DNP3, IEC 870-5-101)

Equipment from MOXA or Lantronix, for example, can be used as TCP/IP serial converters.

By means of Ethernet TCP/IP, the RTUs can be connected directly or via TCP/IP WAN routers to the SIMATIC WinCC system bus (SINAUT ST7, DNP3, IEC 870-5-104 telecontrol protocols). When using the SINAUT ST7 telecontrol protocol, the SINAUT TIM communication module can be used in addition to the TCP/IP WAN router or as an alternative.

Application

Telecontrol communication over the wide area network is largely determined by the communication infrastructure which already exists. Various transmission media such as dedicated line, analog or digital telephone networks, wireless networks (GSM or private), DSL or GPRS can also be combined with each other.

SINAUT ST7 telecontrol protocol

Detailed information for implementing telecontrol applications with the SINAUT ST 7 telecontrol protocol via the Industry Mall.

IEC 60870-5-101/104 telecontrol protocols

More detailed information for implementing telecontrol applications with the IEC 60870-5-101/104 telecontrol protocols via the Industry Mall.

DNP3 telecontrol protocol

SIMATIC TeleControl for WinCC V7.4 also supports the DNP3 telecontrol protocol. Widely distributed outstations (RTUs) can be controlled and monitored with the DNP3 telecontrol protocol via serial or Ethernet TCP/IP communication links by means of the telecontrol center in SIMATIC WinCC.

The control center integrated with SIMATIC TeleControl into the SCADA system is the master during telecontrol communication. The slaves are represented by the remote stations.
SIMATIC S7-1200, SIMATIC S7-1500, SIMATIC Distributed Controllers ET 200SP, SIMATIC S7-300/S7-300F and S7-400/S7-400F/S7-400H/S7-400FH controllers as well as RTU3000C and third-party RTUs can be used as remote stations.

Further hardware and software components round off the range of products:

- TIM communication modules
- TCP/IP converters – serial and MD modem modules
- Mobile radio components (GSM/GPRS)
- TCP/IP routers and switches
- SCALANCE S security modules
- Dedicated line accessories
- Cables
- Engineering package for configuration of DNP3 data objects, stations, networks and connections as well as for diagnostics

In order to implement telecontrol networks, basic topologies including point-to-point, multi-point, star and ring can be configured using classic or TCP/IP-based media. These can be combined flexibly depending on the existing infrastructure.

Classic WAN media:

- Dedicated line via modem, e.g. SINAUT MD2
- Private radio networks
- Analog telephone network
- Digital ISDN network
- GSM, UMTS, LTE mobile network

TCP/IP-based WAN media:

- Ethernet networks, e.g. SCALANCE X with fiber-optic cables
- Industrial Wireless LAN with SCALANCE W
- Public networks and the Internet using DSL and/or GPRS

Function

Special characteristics of DNP3 communication

- Change-driven data transmission
  - Change-driven transmission of process data between RTU and control center
  - Signaling of RTU, control center or connection failure
  - Automatic data updating for all communication partners involved following troubleshooting and following the startup of the RTU or control center
- Chronological processing of process data
  - Time tagging of all data frames at the place of origin allows process data to be archived by the process control system in the correct chronological order
  - The time of the DNP3 stations in the WAN can be synchronized via SIMATIC WinCC (including summertime/wintertime switchover)
- Local data storage
  - The TIM communication module can temporarily store (for several hours or even days) message frames should the connection or the communication partner fail
  - Intermediate storage of message frames of lower priority in the case of priority-controlled data transmission (with dial-up networks or quantity-dependent data transmission costs)

Operating modes

The DNP3 telecontrol protocol supports the following operating modes:

- Polling
- Polling with time slot procedure
- Multi-master polling with time slot procedure
- Spontaneous mode in dial-up networks
- Spontaneous mode in the TCP/IP-based WAN

Integration

Integration of SIMATIC WinCC/TeleControl for WinCC V7.4 into the WinCC SCADA system offers particular advantages for the sectors water/wastewater, as well as oil and gas, especially in the case of the following types of plant:

- Freshwater treatment and distribution
- Wastewater treatment plants
- Oil and gas pipelines and water pipes
- Oil and gas drilling fields and the associated treatment plants

In these types of plant, remote outstations such as pumping stations, valve stations or automated stations for wellheads must be integrated.

Through the support of communication protocols for RTUs such as SINAUT ST7, SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following advanced communication concepts:

- Reduction in the transferred data volume by means of event-controlled communication mechanisms for alarm and measured value information.
- Time synchronization of RTUs and correct time stamping of all data in the RTU.
- Tolerance of lower bandwidth, high latency or lack of reliability of communication lines
- Prevention of data loss due to communications failure through data backup in the RTU
- Support of communication media with serial interface (dedicated lines, dial-up connections over analog telephone lines and ISDN lines), various radio devices (standard, spread spectrum modulation), microwave and GSM
- Support for TCP/IP-based WANs (Wide Area Networks) such as DSL, GPRS or Ethernet radio networks
- Support for redundant communication connections
- Expanded communication diagnostics functions for RTU communication connection
- Remote programming of RTUs
- Support for different communication topologies – Point-to-point, multidrop (multistation mode) and hierarchic network structures
- High quality server redundancy scheme without data loss in the case of server failure

Through the support of communication protocols for RTUs such as IEC 60870-5 and DNP3, SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following advanced communication concepts:

- Reduction in the transferred data volume by means of event-controlled communication mechanisms for alarm and measured value information.
- Time synchronization of RTUs and correct time stamping of all data in the RTU.
- Tolerance of lower bandwidth, high latency or lack of reliability of communication lines
- Prevention of data loss due to communications failure through data backup in the RTU (not all non-Siemens RTUs support this)
- Support of communication media with serial interface (dedicated lines, dial-up connections over analog telephone lines and ISDN lines), various radio devices (standard, spread spectrum modulation), microwave and GSM
- Support for TCP/IP-based WANs (Wide Area Networks) such as DSL, GPRS or Ethernet radio networks
- Support for redundant communication connections
- Expanded communication diagnostics functions for RTU communication connection
- Remote programming of RTUs
- Support for different communication topologies – Point-to-point, multidrop (multistation mode) and hierarchic network structures
- High quality server redundancy scheme without data loss in the case of server failure

Integration

Outstations/remote terminal units

SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following preferred outstations for local distributed automation:

- Controller integrated into ET 200S (IEC 870-5-101/104 telecontrol protocols); for cost-sensitive applications, up to approx. 30 I/O signals or approx. 200 data points
- Controller integrated into RTU3030C (DNP3, IEC 60870-5-104 telecontrol protocols); for very compact and energy-saving applications, up to approx. 16 I/O signals or approx. 150 data points
- S7-1200/S7-1200F Controller (DNP3, IEC 60870-5-104 telecontrol protocols); up to 150 I/O signals or approx. 2 000 data points
- S7-1500 Controller (IEC 60870-5-101/104 telecontrol protocols); up to 250 I/O signals or approx. 4 000 data points
- S7-300/S7-300F Controller (SINAUT ST7, DNP3, IEC 60870-5-101/104 telecontrol protocols); for extremely flexible configuration, up to 100 I/O signals or approx. 2 000 data points
- S7-400/S7-400F Controller (SINAUT ST7, DNP3, IEC 60870-5-101/104 telecontrol protocols); up to 500 I/O signals or approx. 5 000 data points
- Redundant S7-400H/S7-400FH Controller (DNP3 and IEC 60870-5-101/104 telecontrol protocols); up to 500 I/O signals or approx. 5 000 data points
- Third-party station with the IEC 60870-5-101/104 and DNP3 telecontrol protocols (depending on type of station)
- ET 200SP / ET 200SP F Distributed Controllers (telecontrol protocols DNP3, IEC 60870-5-104); extremely flexible configuration options; number of I/O signals / data points depend on the CPU type

The following table provides an overview of the current options for connecting to these outstations:

Spectrum of outstations and integration versions

Telecontrol protocol		**SINAUT ST 7**		**DNP3**		**IEC 60870-5-101**	**IEC 60870-5-104**
Type of communication		Serial	Ethernet TCP/IP	Serial	Ethernet TCP/IP	Serial	Ethernet TCP/IP
Interface		TIM 4R-IE	TCP/IP WAN router or/and TIM 4R-IE	TCP/IP serial converter	TCP/IP WAN router	TCP/IP serial converter	TCP/IP WAN router
RTU/ interface	ET 200S with integr. CPU (corresponds to S7-314)	-	-	-	-	IM 151-7 CPU or IM 151-8 PN/DP CPU as well as 1 SI module + SIPLUS RIC library	IM 151-8 PN/DP CPU + SIPLUS RIC library
	S7-1200/S7-1200F	-	CP 1243-8 IRC	-	CP 1243-1	-	CP 1243 – 1 IEC
	ET 200SP with integr. CPU CPU1510SP(F)-1PN CPU1512SP(F)-1PN	-	CP 1542SP-1 IRC	-	CP 1542SP-1 IRC	-	CP 1542SP-1 IRC
	S7-1500	TIM 1531 IRC	TIM 1531 IRC	-	-	CM PtP + SIPLUS RIC Library	SIPLUS RIC Library
	RTU3000C	-	UMTS modem integrated or external WAN router	-	UMTS modem integrated or external WAN router	-	UMTS modem integrated or external WAN router
	S7-300/S7-300F	TIM 3V-IE	TIM 3V-IE	TIM 3V-IE DNP3	TIM 3V-IE DNP3	CP 341 + SIPLUS RIC library	CP 343 + IEC on S7 or integr. PN interface + SIPLUS RIC Library
	S7-400/S7-400F	TIM 4R-IE	TIM 4R-IE	TIM 4R-IE DNP3	TIM 4R-IE DNP3	CP 441 + SIPLUS RIC library	CP 443 + SIPLUS RIC library or integrated PN interface + SIPLUS RIC library
	S7-400H/S7-400FH	-	-	TIM 4R-IE DNP3	TIM 4R-IE DNP3	ET 200M + 2 x CP 341 + SIPLUS RIC library	CP 443 + SIPLUS RIC library
	Third-party station	-	-	Depends on type of station		Depends on type of station	
Dial-up lines		•	-	•	-	-	-
Dedicated line and radio networks		•	•	•	•	•	•
Master-slave		•	•	•	•	•	•
Peer-to-peer		•	•	-	-	•	•
Mesh networks		•	•	•	•	•	•
Time tagging in RTU		•	•	•	•	•	•
RTU time synchronization		•	•	•	•	•	•
Data buffering in RTU		•	•	•	•	•	•
Routing with SIMATIC PDM		•	•	-	-	-	•
International standard		-	-	•	•	•	•

SIMATIC TeleControl

Ordering data	Article No.
SIMATIC TeleControl for WinCC	
SIMATIC TeleControl 7.4 for WinCC Basic Engineering Software package with SIMATIC Telecontrol for WinCC 7.4 engineering software, floating license for 1 user; runs with Windows 7 Ultimate and Enterprise 32/64-bit, Windows 10 LTSB 2015 (64-bit), Windows Server 2008 R2 Standard 64-bit or Windows Server 2012 R2 Standard 64-bit, electronic documentation on CD/DVD, two languages (English, German) Type of delivery: License key memory stick, certificate of license including terms and conditions, SIMATIC WinCC Data Medium Package V7.4 and CD "WinCC TeleControl Option V7.4"	**6DL5000-7AA47-0XA5**
SIMATIC TeleControl V7.4 for WinCC Server Runtime Software package with SIMATIC Telecontrol for WinCC 7.4 engineering software, single license for 1 user; runs with Windows 7 Ultimate and Enterprise 32/64-bit, Windows 10 LTSB 2015 (64-bit), Windows Server 2008 R2 Standard 64-bit or Windows Server 2012 R2 Standard 64-bit, electronic documentation on CD/DVD, two languages (English, German) Type of delivery: License key memory stick, certificate of license including terms and conditions, SIMATIC WinCC Data Medium Package V7.4 and CD "WinCC TeleControl Option V7.4"	
• 6 stations	**6DL5002-7AA47-0XA0**
• 12 stations	**6DL5002-7AB47-0XA0**
• 256 stations	**6DL5002-7AE47-0XA0**
• unlimited	**6DL5002-7AF47-0XA0**
Upgrades	
SIMATIC TeleControl for WinCC, upgrade V7.0 to V7.4 Upgrade package; single license for 1 installation, E-SW and documentation on DVD; license key on USB flash drive, Class A; two languages (English, German). Executable under Windows 7 Ult/Server 2008 R2/Server 2012 R2	**6DL5002-7AA47-0XE0**

	Article No.
Driver software for telecontrol protocols	
TeleControl SINAUT driver Runtime license for a WinCC stand-alone system or WinCC Server, single license for 1 installation. Requirement: SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations) Type of delivery: License key memory stick, certificate of license including terms and conditions	**6DL5101-8AX00-0XB0**
TeleControl DNP3 driver Runtime license for a WinCC stand-alone system or WinCC Server, single license for 1 installation. Requirement: SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations) Type of delivery: License key memory stick, certificate of license including terms and conditions	**6DL5101-8EX00-0XB0**
TeleControl IEC 870-5-101/-104 driver Runtime license for one WinCC Single Station or one WinCC Server, single license for 1 installation Requirement: SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations) Type of delivery: License key memory stick, certificate of license including terms and conditions	**6DL5101-8CX00-0XB0**

More information

For an overview of the complete performance range on the Internet, visit:

Service & Support:

International:

https://support.industry.siemens.com/cs/?lc=en-DE

Technical Support (Hotline):

International:

https://support.industry.siemens.com/My/ww/en/requests

More information on telecontrol (RTUs):

International:

http://www.siemens.com/telecontrol

Overview

WinCC/Audit & WinCC/ChangeControl

- **WinCC/ChangeControl** is used to **trace engineering changes** in a tamper-proof long-term Audit Trail database, called the Audit Trail for short.
  All engineering changes are automatically recorded in the Audit Trail. This provides a traceable record of every change that has been made, as well as enabling the causes to be deduced and the system downtimes to be minimized.
  To begin tracing at defined project statuses, a project version definition is provided that contains all data and files of a WinCC project version. The project version definition naturally provides the ability to reactivate earlier project versions. Document management is also provided, which manages and archives intermediate statuses for system graphics, reports or user files and stores change information of the user. The audit viewer with helpful filter functions enables the Audit Trail to be quickly and easily evaluated, exported or even printed out.
- **WinCC/Audit** is based on the same Audit Trail database and the same audit viewer as WinCC ChangeControl. However, the focus of WinCC Audit is the **traceability of all operator actions** during production, i.e. during the runtime of WinCC. All operations are automatically recorded in the Audit Trail at RT. In addition, WinCC Audit offers additional functions for secure and traceable plant operation, such as electronic signature for certain operating actions.
- The WinCC/Audit or WinCC/ChangeControl options and SIMATIC Logon support users in the validation of their plants and meet the requirements according to FDA CFR 21 Part 11.

Licenses (as of WinCC V8.0)

The complete license WinCC Audit RC includes the licenses for runtime and configuration of WinCC ChangeControl and WinCC Audit.

Licensing applies to one engineering station (configuration) and one operating station (runtime) for which an Audit Trail is to be generated.
An RC license also always includes a runtime (RT) license. Only one RT license is required for each additional operating station with Audit Trail.
In case of WinCC Server (for UNI or web clients), an Audit RT Server license must be used.
However, the clients on such a server do not require their own licensing.
The individual functional areas can also be purchased independently of each other via the WinCC ChangeControl or WinCC Audit RC Base single licenses.

Benefits

- Quick and easy traceability configuration
- Gap-free and automated recording of engineering changes and operator actions in an Audit Trail
- Reduction in plant downtimes thanks to fast analysis of the gap-free recorded Audit Trail information
- Logging of defined WinCC project status with all database information and files of the application
- Gap-free documentation of the project version definition procedures with version number, user and comments
- Complete tracing support by WinCC single and multi-station systems, single and multi-project solutions, Client/Server architecture
- Additional protection of selected operating actions by electronic signature
- Extensive reduction in engineering outlay in order to meet the requirements of FDA 21 CFR Part11 & EU 178/2002
- Compliance with the requirements of the Food and Drug Administration (FDA) for the food, beverages and tobacco industries

Design

WinCC/ChangeControl and WinCC/Audit consist of five components:

- The Audit Editor for configuration the Audit Trail content
- The project version definition for archiving WinCC projects
- Document management for automatic archiving and versioning of WinCC plant screens, scripts, reports, and project-specific documents, and the recording of the associated change information
- The Audit Viewer for visualizing, exporting and printing the WinCC Audit Trail. The viewer is available as an executable program under Windows, as well as OCX with WinCC Runtime.
- The Audit Trail, which tracks all changes in respect of both engineering and plant operation in a separate SQL database. The Audit Trail can be set up as a central Audit Trail for a number of projects or even just for a single project.

WinCC/ChangeControl and WinCC/Audit support both single-user and multi-user systems, client/server architectures and even the WinCC redundancy system. No redundant Audit Trail is created however.

Function

WinCC/ChangeControl

WinCC/ChangeControl is a functional subset of WinCC/Audit. WinCC/ChangeControl is for tracing engineering changes in the engineering phase or in online operation. All change data is recorded in an Audit Trail.

There are two types of engineering changes:

- those that change the WinCC database or are executed through the WinCC Explorer, such as e.g. changes to tag management or creating a user group,

and those

- limited to changing files, the so-called document management.

The document management manages plant screens, scripts and log layouts and customer-specific documents and stores respective intermediate versions as backups. All of these documents or files are subject to a change process, i.e. documents can be booked out for processing, booked in for finalization and intermediate versions can be retrieved from backup storage with a rollback function.

The project version definition as a component of WinCC /ChangeControl archives WinCC projects and creates reproducible project statuses or defined start time points for starting tracing. An Audit Trail is also provided with information on who has created which project version or which version has been reproduced or deleted.

Function

Configuring the Audit Trail, the project version definition and the document management is simple, quick and comfortable.

The Audit Trail data is visualized from WinCC via the audit viewer, an executable program under Windows.

The data can also be evaluated with the audit viewer OCX in Runtime by WinCC however. Users select the desired view of the Audit Trail information via filters or selection criteria and can export the data to an Excel file or print it on a printer.

Audit Trail information is tamper-proof and can thus not be modified or deleted. An export function can be used to swap out the Audit Trail to an XML file or to archive it.

WinCC/Audit

WinCC/Audit has all of the functionality of WinCC/ChangeControl and is also used for tracing operator operations in RT operation. Tracing can be used for determining who, when and what conditions the machine has undergone. In addition to recording operator activities, the Audit Trail also records the starting and modifying of recipes or operator logs.

In addition, the user can perform activities of an individual nature at specific objects or events, such as pressing a function button, moving sliders and other actions, while using a so-called audit entry function to record these activities in the Audit Trail.

A WinCC/ChangeControl RC license or a WinCC/Audit RC license is required for configuring the Audit Trail. One RT license is required for each station (client/server) to be monitored. One RC license always includes one RT license.

Ordering data

	Article No.
WinCC/ChangeControl	
WinCC ChangeControl V8.0	
• Standard scope of supply	**6AV6371-1DV28-0AX0**
• As download	**6AV6371-1HV28-0AX0**
WinCC/Audit	
WinCC/Audit RC V8.0	
For configuration of ChangeControl and Audit incl. RT	
• Standard scope of supply	**6AV6371-1DV18-0AX0**
• As download	**6AV6371-1HV18-0AX0**
WinCC/Audit RC Base V8.0	
For configuration of Audit incl. RT	
• Standard scope of supply	**6AV6371-1DV48-0AX0**
• As download	**6AV6371-1HV48-0AX0**
WinCC/Audit RT V8.0	
Creation of Audit Trails in RT	
• WinCC Audit RT V8.0	**6AV6371-1DV08-0AX0**
• WinCC Audit RT Server V8.0	**6AV6371-1DV38-0AX0**
• WinCC Audit RT Server PowerPack	**6AV6371-1BV38-0AX0**
As download	
• WinCC Audit RT V8.0	**6AV6371-1HV08-0AX0**
• WinCC Audit RT Server V8.0	**6AV6371-1HV38-0AX0**
• WinCC Audit RT Server PowerPack	**6AV6371-1JV38-0AX0**
Upgrades	
V7.5 to V8.0	
• For WinCC/Audit RT	**6AV6371-1DV08-0BX4**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1DV18-0BX4**
As download	
• WinCC/Audit RT	**6AV6371-1KV08-0BX4**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1KV18-0BX4**
V7.3/7.4 to V8.0	
• For WinCC/Audit RT	**6AV6371-1DV08-0BX3**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1DV18-0BX3**
As download	
• WinCC/Audit RT	**6AV6371-1KV08-0BX3**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1KV18-0BX3**

Ordering data

	Article No.
WinCC/ChangeControl	
WinCC/ChangeControl V7.5 SP2	
For the configuration of the Audit Trail incl. RT	
• Standard scope of supply	**6AV6371-1DV27-5AX0**
• As download	**6AV6371-1HV27-5AX0**
WinCC/Audit	
WinCC/Audit RC V7.5 SP2	
For the configuration of the Audit Trail incl. RT	
• Standard scope of supply	**6AV6371-1DV17-5AX0**
• As download	**6AV6371-1HV17-5AX0**
WinCC/Audit RT V7.5 SP2	
Creation of Audit Trails in RT	
• Standard scope of supply	**6AV6371-1DV07-5AX0**
• As download	**6AV6371-1HV07-5AX0**
Upgrades	
V7.4 to V7.5 SP2	
• For WinCC/Audit RT	**6AV6371-1DV07-5BX4**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1DV17-5BX4**
As download	
• WinCC/Audit RT	**6AV6371-1KV07-5BX4**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1KV17-5BX4**
V7.2/7.3 to V7.5 SP2	
• For WinCC/Audit RT	**6AV6371-1DV07-5BX3**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1DV17-5BX3**
As download	
• WinCC/Audit RT	**6AV6371-1KV07-5BX3**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1KV17-5BX3**

More information

More information is available at:

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

Information on the declarations of conformity for SIMATIC WinCC can be found at:

https://new.siemens.com/global/en/markets/pharma-industry/good-manufacturing-practice.html

WinCC/Calendar Scheduler

Overview

WinCC/Calendar Scheduler

- Option for SIMATIC WinCC for managing events in a calendar.
- Setting WinCC variables or starting global scripts at defined times.

Licenses

- WinCC/Calendar Scheduler comprises engineering and runtime software, with licensing either on the WinCC server or single-user system
- A common "Upgrade for WinCC Calendar options" software package is used to upgrade to a new version.

Benefits

- Simple operation, configuration and planning of events thanks to handling in the style of Microsoft Office Calendar
- Simple configuration of the actions by parameterization (execution of WinCC scripts or writing of WinCC tags at certain times)
- Configuration of recurring events taking account of configurable public holidays, vacation periods, and maintenance periods
- Secure operation of the plant taking account of different authentication levels
- Clear representation of events at runtime by means of Calendar Runtime Control
- Flexible use in all typical WinCC plant configurations client/server, redundant systems, WebNavigator

Function

With the WinCC Calendar Scheduler, events and their associated actions can be configured in a user-friendly and clear way in an editor in WinCC Explorer.

The events are represented in a calendar. The period represented can be freely selected. Recurring events can be defined as serial events with any desired exceptions.

The events are displayed in a .Net control. The Calendar Scheduler is easy and intuitive to operate and supports drag & drop during configuration and runtime.

Ordering data

	Article No.
WinCC/Calendar Scheduler	
• WinCC V8.0	**6AV6372-1DC08-0AX0**
• WinCC V7.5 SP2	**6AV6372-1DC07-5AX0**
As download	
• WinCC V8.0	**6AV6372-1HC08-0AX0**
• WinCC V7.5 SP2	**6AV6372-1HC07-5AX0**
Upgrade	
• V7.5 SP2 -> V8.0	**6AV6372-1DC08-0AX4**
• V7.3/7.4 -> V8.0	**6AV6372-1DC08-0AX3**
• V7.4 -> V7.5 SP2	**6AV6372-1DC07-5AX4**
• V7.2/7.3 -> V7.5 SP2	**6AV6372-1DC07-5AX3**
As download	
• V7.5 SP2 -> V8.0	**6AV6372-1KC08-0AX4**
• V7.3/7.4 -> V8.0	**6AV6372-1KC08-0AX3**
• V7.4 -> V7.5 SP2	**6AV6372-1KC07-5AX4**
• V7.2/7.3 -> V7.5 SP2	**6AV6372-1KC07-5AX3**

More information

You can find more information at:

http://www.siemens.com/wincc-calendar-options

Overview

WinCC/Connectivity Pack & WinCC Connectivity Station

Cross-manufacturer communication in the automation sector has always been of primary importance for WinCC. This is even more true for the exchange of preprocessed production data for higher-level information systems (e.g. MES = Management Execution System, ERP = Enterprise Resource Planning or Office packages = MS Excel, MS Access, etc.).

WinCC has integrated OPC and OPC UA servers that provide access to online and archive data. In addition to OPC, the Connectivity Pack also activates the access options via OLE DB and, as of WinCC V8.0, also MQTT Cloud Connect, REST API, and REST Connector.

- The following OPC access operations are possible with the Connectivity Pack:
  - OPC UA server for DA, A&C, and HDA
  - OPC server for A&E and HDA

Access via OPC DA is also possible without Connectivity Pack. The Connectivity Station offers OPC UA, OPC and OLE DB access also via a station without WinCC installation.

Licensing

- A Connectivity Pack license is required for each WinCC system to be accessed.
- When using the Connectivity Station it is not necessary to install additional Connectivity Pack licenses on the WinCC systems being accessed.
- In order to use the OPC interfaces of the Connectivity Station on a computer without the WinCC installation, you need the "WinCC Connectivity Station" license.
- For sole use of the OPC interfaces of a WinCC installation, only the "Connectivity Pack" license is required.

The Connectivity Station is configured via the SIMATIC Manager.

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: http://www.siemens.com/simatic-licenses

Benefits

- Access to variables, historical WinCC data, alarm data and user archives from any computer
- Options for analyzing and evaluating process data with specialist tools or user-defined applications

Function

As an OPC HDA server, WinCC makes historical data from the WinCC archive system available to other applications.

An OPC HDA client (e.g. a reporting tool) can define the time interval for the required data by entering a start and end time. OPC HDA servers also support the generation of a variety of aggregate functions on the server itself (e.g. standard deviation, variance, mean values, integral values, etc.), thereby helping to relieve the load on the network, as only preprocessed data are transmitted.

OPC A&E servers are used to forward WinCC messages (along with all associated process values) to any client at production or enterprise control level.
Filter mechanisms and subscriptions ensure that only selected modified data are transmitted. Acknowledgement is of course also supported.

WinCC OLE DB makes standardized and user-friendly access to WinCC archive data possible (MS SQL Server).

In exactly the same way as access via the OPC HDA and OPC A&E interfaces, access via the WinCC OLE DB Provider makes all WinCC archive data available along with the associated process values and message/user texts.
The WinCC OLE DB Provider also supports analysis functions such as minimum, maximum, message hit list, etc.

WinCC Cloud Connect, the REST API and the WinCC REST Connector provide you with additional options for exchanging data with other systems via MQTT and REST. Be it for connecting WinCC to a cloud, such as MindSphere, or for communicating with MES/MOM systems such as Opcenter or other IT systems.

Connectivity Station

If no visualization is required at a station, any Windows computer with access to WinCC via OPC and OLE DB can be configured via the Connectivity Station. This permits access to WinCC stations with server packages from a central computer without WinCC installation. The WinCC stations can be accessed via the following interfaces:

- OPC interfaces of the Connectivity Station
- OLE DB interface of the Connectivity Pack

The two access variants are autonomous access options with different ranges of functions.

OPC interfaces of the Connectivity Station

The Connectivity Station provides interfaces via which you can access the following using an OPC client.

- OPC UA (DA, A&C and HDA)
- OPC (DA, A&E and HDA)

WinCC/Connectivity Pack & WinCC Connectivity Station

Ordering data

	Article No.
WinCC/Connectivity Pack & WinCC/Connectivity Station	
V8.0	
Basic Packages	
• WinCC/Connectivity Pack V8.0 [1]	**6AV6371-1DR08-0AX0**
• WinCC/Connectivity Station V8.0 [1]	**6AV6371-1DR18-0AX0**
As download	
• WinCC/Connectivity Pack V8.0	**6AV6371-1HR08-0AX0**
• WinCC/Connectivity Station V8.0	**6AV6371-1HR18-0AX0**
V7.5 SP2	
Basic Packages	
• WinCC/Connectivity Pack V7.5 SP2 [1]	**6AV6371-1DR07-5AX0**
• WinCC/Connectivity Station V7.5 SP2 [1]	**6AV6371-1DR17-5AX0**
As download	
• WinCC/Connectivity Pack V7.5 SP2	**6AV6371-1HR07-5AX0**
• WinCC/Connectivity Station V7.5 SP2	**6AV6371-1HR17-5AX0**

[1] Upgrades are included in the WinCC Basic Software upgrades

More information

You can find more information at:

http://www.siemens.com/wincc-connectivity-pack

Overview

WinCC/Event Notifier

- Option for SIMATIC WinCC for notifying selected persons by email in specified time slots
- Notification depends on events occurring in the WinCC Message System
- Escalation levels, i.e. Group 2 is only notified when nobody "on site" or from Group 1 has reacted within a specified time
- Final notification of all persons previously notified in connection with the specific event about the reaction that has taken place

Licenses

- WinCC/Event Notifier comprises engineering and runtime software, with licensing either on the WinCC server or single-user system
- A common "Upgrade for WinCC Calendar options" software package is used to upgrade to a new version.

Benefits

- Simple operation, configuration and planning of notifications thanks to handling like the Microsoft Office Calendar
- Easy configuration of the notifications including support of the WinCC Runtime languages by connecting to the WinCC Message System
- Configuration of recurring events taking account of configurable public holidays, vacation periods, and maintenance periods
- Secure operation of the plant taking account of different authentication levels
- Clear display and intuitive operation at runtime by means of Calendar Control
- Flexible use in all typical WinCC plant configurations single station, client/server, redundant systems, WebNavigator

Function

The WinCC Event Notifier enables the following to be configured in a clear and user-friendly manner via the Calendar Options Editor in the WinCC Explorer:

- The email service for sending and receiving messages
- The messages by selecting configured messages in the WinCC Alarm System as well the setup and contents of the message by selecting the message blocks
- Contacts by selecting predefined persons from the WinCC user administration.

In a calendar it is then possible to select the persons to be notified within the opened time slot from the existing contacts. If several persons or groups of persons are set up for the same time slot, escalation levels can be implemented by assigning different escalation times (= dead time before notification). The period represented by the calendar can be freely selected. Recurring events can be defined as serial events with any desired exceptions.

The calendar can also be integrated as .Net Control in WinCC screens; the appearance of the calendar controls at runtime is configurable. Via the calendar control, you can create time slots during runtime with contacts who should be notified upon occurrence of the configured events in the WinCC Alarm System. In addition, the calendar control allows the creation of new contacts by means of selection from the WinCC user management.

The Event Notifier is easy and intuitive to operate and supports drag & drop during configuration and runtime.

Ordering data

Ordering data	Article No.
WinCC/Event Notifier	
• For WinCC V8.0	**6AV6372-1DD08-0AX0**
• For WinCC V7.5 SP2	**6AV6372-1DD07-5AX0**
As download	
• For WinCC V8.0	**6AV6372-1HD08-0AX0**
• For WinCC V7.5 SP2	**6AV6372-1HD07-5AX0**
Upgrade	
(joint upgrade package for Calendar Scheduler and Event Notifier)	
• V7.5 -> V8.0	**6AV6372-1DC08-0AX4**
• V7.3/7.4 -> V8.0	**6AV6372-1DC08-0AX3**
• V7.4 -> V7.5 SP2	**6AV6372-1DC07-5AX4**
• V7.2/7.3 -> V7.5 SP2	**6AV6372-1DC07-5AX3**
As download	
• V7.5 -> V8.0	**6AV6372-1KC08-0AX4**
• V7.3/7.4 -> V8.0	**6AV6372-1KC08-0AX3**
• V7.4 -> V7.5 SP2	**6AV6372-1KC07-5AX4**
• V7.2/7.3 -> V7.5 SP2	**6AV6372-1KC07-5AX3**

More information

You can find more information at:

http://www.siemens.com/wincc-calendar-options

WinCC/Open Development Kit (ODK)

Overview

WinCC/ODK (Open Development Kit)

- WinCC option for utilization of the exposed programming interfaces that can be used to access data and functions of the WinCC configuration and WinCC runtime system
- The interfaces are designed as "C-Application Programming Interface" (C-API)

Licenses

The scope of supply of WinCC/ODK includes many examples and comprehensive documentation.

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: http://www.siemens.com/simatic-licenses

Benefits

- Individual system expansions via an open standard programming language
- Access to data and functions of the WinCC configuration and runtime system
- Development of your own applications and add-ons for the WinCC basic system

Function

API functions are configuration and runtime functions, such as:

- MSRTCreateMsg: Creates a message
- DMGetValue: Determines the value of a tag
- PDLRTSetProp: Sets the object properties in a display

They can be used as follows:

- Within WinCC, e.g. in global scripts or within the scope of C actions in the Graphics Designer
- In Windows applications in the C programming language (the current version of Microsoft Visual C++ is required as a developer's environment for WinCC)

Ordering data

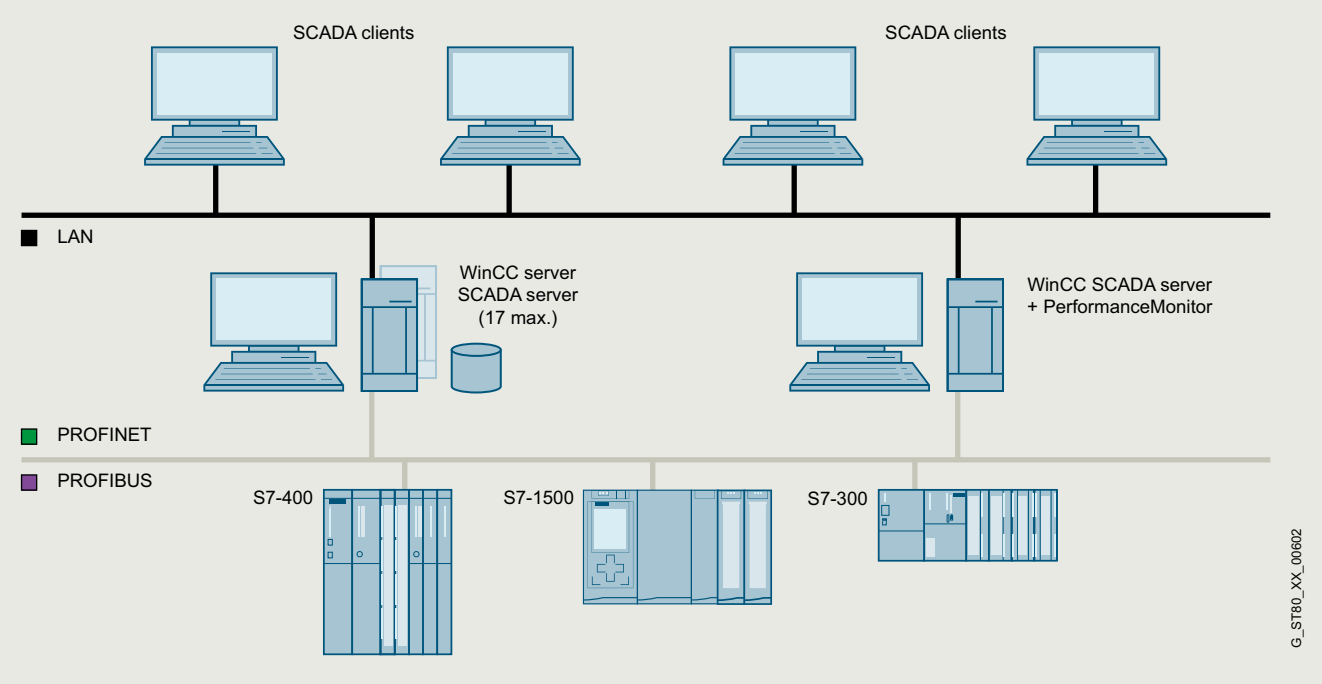
	Article No.
SIMATIC WinCC/ODK	
Open Development Kit, option for SIMATIC WinCC	
• V8.0	**6AV6371-1CC08-0AX0**
• V7.5 SP2	**6AV6371-1CC07-5AX0**
As download	
• V8.0	**6AV6371-1GC08-0AX0**
• V7.5 SP2	**6AV6371-1GC07-5AX0**

More information

You can find more information at:

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

Overview



WinCC/PerformanceMonitor

WinCC/PerformanceMonitor – Analysis and optimization of production on the basis of individual performance indicators

The WinCC/PerformanceMonitor facilitates flexible calculation and powerful analysis of plant-specific key performance indicators (KPIs). The indicators provide the basis for deriving optimization potential, thus enabling productivity enhancement.

They relate to individual machine groups, plant sections or production lines. The elements to be monitored are designated as equipment. Indicators are calculated based on operands which are derived from already configured WinCC tags. By combining them with associated values, more accurate production correlations can be highlighted, such as quality/supplier dependencies. The calculation formulas used are quick and simple to create in WinCC.

Analysis of the indicators and their operands can be carried out in the WinCC system at any time. Indicators, along with their associated values if required, can be clearly displayed in bar graphs, allowing easy comparison. In addition, the input values of each performance indicator can be shown via an integrated analysis function (drill-down). The Gantt chart illustrates the chronological sequence of the operands. The table display lists the archived values, allowing subsequent correction if required. Performance indicators calculated online, either cyclically or triggered by a tag, can be written to WinCC tags for further processing in WinCC, and display in WinCC images, for example.

The PerformanceMonitor can be combined with the WebNavigator for distribution on the Internet, and with the Information Server for reporting purposes. Integration into WinCC ensures fast configuration and complete transparency across all machine and plant data as a basis for optimizing plant productivity.

- The WinCC/PerformanceMonitor can be installed on a WinCC stand-alone system, WinCC server or WinCC client project (WinCC RT Client license), and consists of an engineering client as well as a runtime user interface.
- The WinCC/PerformanceMonitor provides ActiveX control elements for embedding in WinCC images.
  - PerformanceControl: Bar graphs for displaying performance indicators in relation to context values, showing the operands for cause analysis in each case.
  - Gantt chart: Chronological sequence of time-based operands
  - TableControl: Tabular listing of operands with post correction option.
- With the help of the integrated configuration environment, operands are calculated (based on tags) which can be used to calculate key statistics at the set evaluation time.
- For analysis via intranet or Internet, the controls of the WinCC/PerformanceMonitor are available when using the WinCC/WebNavigator.
- The SIMATIC Information Server can be used for generating plant-specific, web-based reports (predefined and expandable).

Licensing:

- The basic package comprises a configuration environment, runtime controls (bars, Gantt, tables) and a license for archiving 30 values.
- The logged values (operands, context) form the basis of the analysis. If more values are to be archived, the number of (additive) archive values can be increased in steps of 30, 100, 300 or 1 000 (countable tags).

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: http://www.siemens.com/simatic-licenses

Benefits

Management and quality assurance

Complete transparency throughout the machine park as the basis for optimizing plant productivity.

- Recording of downtimes, localizing causes and reasons for failure times, and monitoring of equipment efficiency.
- Decision making based on performance indicators.
- Global availability of information server reports means they can be used by different user groups.
- Recognition of production correlations by combining associated values with indicators such as material used.

Servicing and maintenance

Support through cyclic and process-event triggered calculation of characteristics:

- Standardization of new plants by defining controller-based status information for key figure calculation
- Individual, targeted analysis using plant-specific performance indicators.
- Weak-point analysis in production processes and recording of undesirable process activities.
- Cause analysis by examining "drill down to operands" calculation basis.
- Identification of the events that lead to cost-intensive failures.

Line management and plant operator

The operator is always kept up-to-date by graphical display of the characteristics.

- Later modification of archived input values.
- Continuous information at the operator interface thanks to integration in the WinCC user interface.
- Alarm messaging of limit violations and trend recording through cyclic calculation of characteristics.
- Integration into the WinCC system means it is not necessary to train operating personnel
- Quick detection of weaknesses in the process using cyclic calculation of characteristics.

WinCC Engineering

- Quick configuration of WinCC operator displays with WinCC and web-based reports from the Information Server.
- Minimal networking overhead by using the WinCC infrastructure in the local network as well as for the Internet.
- Short familiarization times and simple configuration using familiar tools for user interfaces and reports (WinCC, SIMATIC Information Server)
- Minimal configuration overhead due to the type-instance concept
- Minimal administrative overhead by using the WinCC infrastructure in the local network as well as for the Internet.

Highlights

Creation of performance indicators by the WinCC engineer with subsequent utilization by all user groups in the manufacturing company on WinCC stations or Internet clients.

Application

All user groups benefit from the PerformanceMonitor, from the application engineer to management-level evaluators. The engineer can use the application environment integrated in WinCC to derive individual formulas for calculating performance indicators.

Management uses Web-based reporting without the need for installation on standard computers. For maintenance, the web client of the WebNavigator can be used for analysis with the bar (for performance), progression (Gantt) and table controls. Performance indicators can be displayed on local user interfaces using standard WinCC resources to keep machine operators up to date. The service engineer can analyze the plant from his/her workstation using the WinCC Client, the Webclient of the WinCC/WebNavigator, for example. At the management level, it is possible to access Web-based reports without the need for installation on standard computers.

Function

- Structuring of the production plant in equipment units constituting central elements for evaluation
- Use of structured tags in order to facilitate implementation of machine status models
- WinCC tags are compressed to an operand using formulas
- Calculated operands are stored in the archive
- Archived operands are used as input values for calculating performance indicators
- Bar graphs for analyzing performance indicators and root cause determination (drill down)
  Indicator input values (operands) can be displayed if required.
- Tabular presentation of all operands (input values)
- Progression diagrams (Gantt charts) of time-based operands
- Cyclic or event-triggered calculation results are written to WinCC tags
- WinCC Runtime, alarm logging and trend logging can utilize cyclically-calculated values
- Database information and evaluations can be displayed at every WinCC station
- Information server reports can be displayed on independent PC workstations

Ordering data

	Article No.
WinCC/PerformanceMonitor	
WinCC/PerformanceMonitor Basic Package	
Including 30 PerformanceMonitor archive tags	
• WinCC/PerformanceMonitor V8.0	**6AV6372-2DG08-0AA0**
• WinCC/PerformanceMonitor V7.5 SP2	**6AV6372-2DG07-5AA0**
As download	
• WinCC/PerformanceMonitor V8.0	**6AV6372-2HG08-0AA0**
• WinCC/PerformanceMonitor V7.5 SP2	**6AV6372-2HG07-5AA0**
Option for WinCC/PerformanceMonitor V7.5 SP2 and V8.0 Basic package	
• 30 additive PerformanceMonitor archive tags	**6AV6372-2CG20-0BA0**
• 100 additive PerformanceMonitor archive tags	**6AV6372-2CG20-0CA0**
• 300 additive PerformanceMonitor archive tags	**6AV6372-2CG20-0DA0**
• 1 000 additive PerformanceMonitor archive tags	**6AV6372-2CG20-0EA0**
As download	
• 30 additive PerformanceMonitor archive tags	**6AV6372-2JG20-0BA0**
• 100 additive PerformanceMonitor archive tags	**6AV6372-2JG20-0CA0**
• 300 additive PerformanceMonitor archive tags	**6AV6372-2JG20-0DA0**
• 1 000 additive PerformanceMonitor archive tags	**6AV6372-2JG20-0EA0**

	Article No.
WinCC/PerformanceMonitor Upgrade	
V7.5 SP2 to V8.0	
• Standard software	**6AV6372-2DG08-0AX4**
• As download	**6AV6372-2KG08-0AX4**
V7.3/7.4 to V8.0	
• Standard software	**6AV6372-2DG08-0AX3**
• As download	**6AV6372-2KG08-0AX3**
V7.4 to V7.5 SP2	
• Standard software	**6AV6372-2DG07-5AX4**
• As download	**6AV6372-2KG07-5AX4**
V7.2/7.3 to V7.5 SP2	
• Standard software	**6AV6372-2DG07-5AX3**
• As download	**6AV6372-2KG07-5AX3**

More information

You can find more information at:

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

WinCC/Redundancy

Overview

WinCC/Redundancy

- Option for SIMATIC WinCC, supporting the parallel operation of two interfaced WinCC single-user systems or process data servers for mutual monitoring
- If one of the two server PCs or one of the two WinCC stations fails, the second one will take over control of the entire system. Once the failed server or station is restored to operation, the process value archives are copied to the restored partner.

Licenses

The WinCC/Redundancy option includes licenses for both redundant servers. A Redundancy license is required on each of the two servers in addition to other necessary licenses.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here:
http://www.siemens.com/simatic-licenses

Benefits

- Increased system availability with continuous data integrity
- Automatic changeover of client in the event of failure of a server or failure of the communication to a server
- Continuous operator control and visualization thanks to automatic client changeover to the intact server
- Automatic updating of all archives in the background after rectification of the fault

Function

Normally, two WinCC stations or process data servers run in parallel. Each station has its own process connection and its own data archives. WinCC/Redundancy ensures automatic matching of system and user archive data.

If one of the two server computers or WinCC stations fails, the second will take over the archiving of messages and process data, thereby ensuring seamless data integrity. In client/server mode, the clients are automatically switched from the failed server to the redundant partner. This ensures continuous plant visualization and operation on every operator station.

When the failed partner resumes operation, all process values, messages and data archived during the fail period are automatically matched with the partner. This process runs in the background and does not affect plant continuity. Once this is complete, two equivalent servers/stations will be available again.

Communication with the SIMATIC S7 PLC can also be configured with redundancy (an H Series SIMATIC S7 is required) by plugging in two communication modules and configuring two communication paths (S7-REDCONNECT software package). The use of failsafe H Series SIMATIC S7 PLCs can, if required, further increase availability at control level.

Ordering data

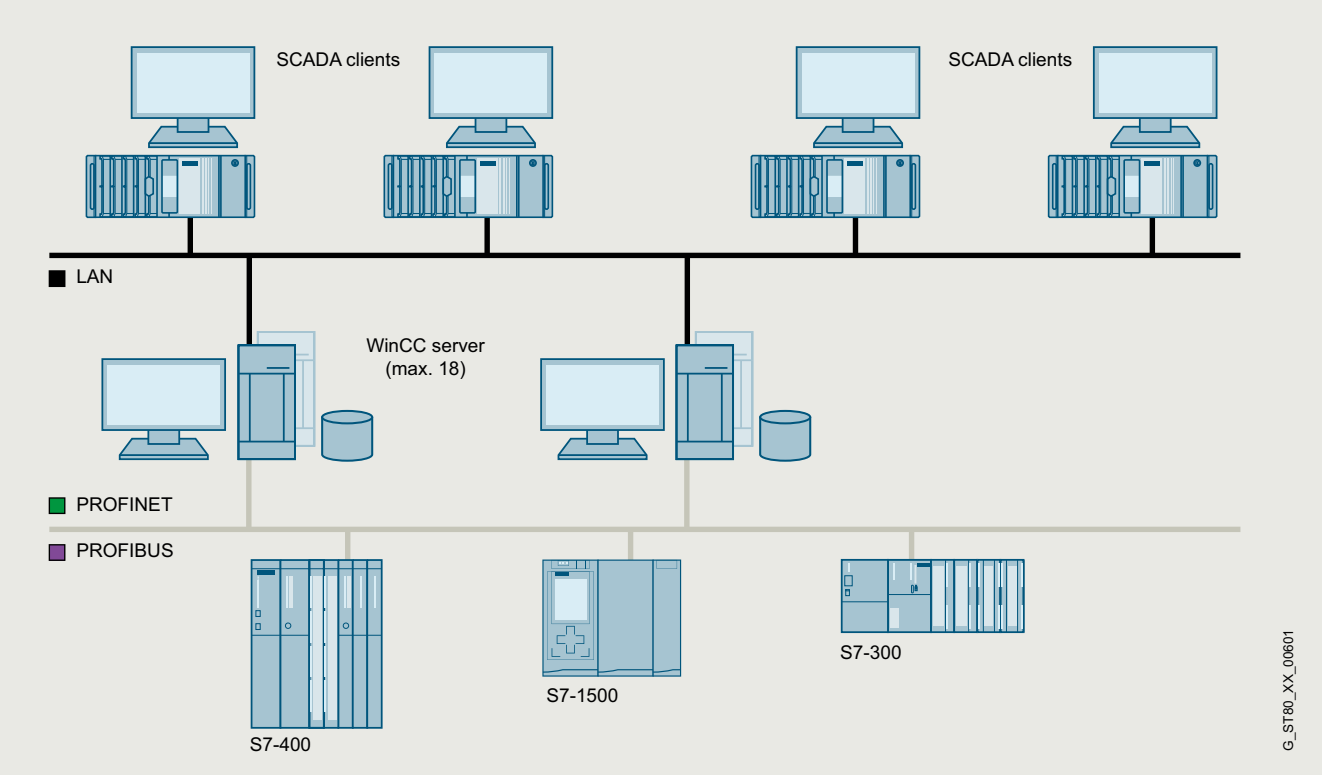
	Article No.
SIMATIC WinCC/Redundancy V8.0	
• Runtime software, single license for 2 installations	**6AV6371-1CF08-0AX0**
• As download, Runtime software, single license for 2 installations	**6AV6371-1HF08-0AX0**
SIMATIC WinCC/Redundancy V7.5 SP2	
• Runtime software, single license for 2 installations	**6AV6371-1CF07-5AX0**
• As download, Runtime software, single license for 2 installations	**6AV6371-1HF07-5AX0**

More information

You can find more information at:

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

Overview



SIMATIC WinCC/Server

- Option for SIMATIC WinCC, which permits the configuration of a powerful client/server system.
- A maximum of 3 clients can be connected to non-server operating systems.
- A number of coordinated HMI stations can be operated in a single group with networked automation systems
- Client/server solution:
  - Client without its own project ("UNI-Client"):
    One (redundant) server can supply up to 64 clients with process and archive data, messages, images and reports. The clients act as display and operating stations for the project on the server.
  - Client with its own project ("MULTI-Client"):
    One client can simultaneously access up to 18 (redundant) servers. These servers make the data and images available. This data can be collectively processed and displayed in the client project in order, for example, to implement a system overview across several servers. In this case, one server can supply data to as many as 50 clients.
- Requirement: Network connection (TCP/IP) between the server PC and the connected clients

Licenses:

The following licenses are required for configuring a multi-user system:

- WinCC Server license on the server in addition to a WinCC RT license (a server license is required for each server)
- One WinCC RT Client license on each client.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here:
http://www.siemens.com/simatic-licenses

WinCC/Server

Benefits

- Plant-wide scalability from the single-user system to the client/server solution
- Significantly higher quantity framework, relieving the individual servers and better performance due to distributing the complete application or tasks over several servers
- Low-cost configuration on the client is possible (the minimum RC license is sufficient)

Application

In a complex plant, WinCC can also be configured as a distributed system according to requirements:

- Functional distribution (e.g. message servers, archive servers, etc.) or
- Distribution according to the physical plant structure (e.g. body-in-white, paintshop, etc.)

Function

Each client can access more than one server at a time. Clients can also be used for configuration on the server.

A configuration of WinCC clients as a central Web server - as a distributed system if required - with an overview of all server projects in the system is also possible.

For WinCC clients, only the smallest runtime license WinCC RT client is required. In order to also facilitate configuration on WinCC clients, the smallest complete license WinCC RC client is required. Remote configuration is possible if WinCC clients without their own project (Uniclients) on the server project are configured. This makes it possible to configure inexpensive operator and configuration stations in a network.

Ordering data

	Article No.
SIMATIC WinCC/Server V8.0	
• Runtime software, single license	**6AV6371-1CA08-0AX0**
• As download, Runtime software, single license	**6AV6371-1HA08-0AX0**
SIMATIC WinCC/Server V7.5 SP2	
• Runtime software, single license	**6AV6371-1CA07-5AX0**
• As download, Runtime software, single license	**6AV6371-1HA07-5AX0**

More information

You can find more information at:

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

Overview

WinCC/UserArchives

- Option for SIMATIC WinCC for managing data records in user archives that contain related data.
- WinCC and its automation partners (e.g. a SIMATIC S7-300/400 controller) write these data records and exchange them if required.

The WinCC/UserArchives option can also be used in the context of the WinCC/WebNavigator (see also WinCC/WebNavigator option).

Licenses

A license is only required for the server (or single-user system).

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: http://www.siemens.com/simatic-licenses

Benefits

- Storing and managing of any user data in data sets
- Flexible display using ActiveX controls
- Simple linking of data set fields to the process via direct tag linking
- Import/export functions for further processing with other tools (e.g. MS Excel)

Function

- Input of parameter sets (e.g. operating parameters of a machine) in WinCC, storage of the sets in the user archive, and forwarding to the automation level
- Continuous acquisition of production parameters by the automation system and forwarding of the parameters to WinCC at the end of the shift
- Acquisition of batch data
- Specification of production parameters
- Management of warehousing data

WinCC user archives are created and assigned data in a user-friendly way using a dedicated editor. Special ActiveX controls are used for displaying data from the user archives at runtime.

Data sets and fields from user archives are linked to the process via direct tag linking.

Import and export functions support read-in/out of data via external applications (e.g. MS Excel). Freely selectable filter criteria allow clear representation of data sets.

WinCC provides functions for free organization of the data storage in the user archives that affect archives, data sets and fields. Archives can thus be generated, opened, closed, or reset, and data sets or field contents can be read, written or overwritten.

Sequence archives can accommodate batch data, shift production data, or also product quality data, and meet legal obligations for verification thanks to gap-free recording.

Ordering data

	Article No.
SIMATIC WinCC/UserArchives	
• Option for SIMATIC WinCC V8.0, Runtime software, single license	**6AV6371-1CB08-0AX0**
• Option for SIMATIC WinCC V7.5 SP2, Runtime software, single license	**6AV6371-1CB07-5AX0**
As download	
• Option for SIMATIC WinCC V8.0, Runtime software, single license	**6AV6371-1HB08-0AX0**
• Option for SIMATIC WinCC V7.5 SP2, Runtime software, single license	**6AV6371-1HB07-5AX0**

More information

You can find more information at:

http://www.siemens.com/wincc-user-archives