

HMI software and automation software



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HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

Introduction

Overview

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified is the new visualization system which permits users to competently meet the challenges of digitalization in machine and plant construction. SIMATIC WinCC Unified combines the know-how accumulated from more than 30 years of experience in the area of Human Machine Interface with state-of-the-art hardware and software technologies.

Highlights:

- The latest technology with proven engineering
 - The runtime of the newly developed SIMATIC WinCC Unified visualization software is based on native web technologies such as HTML5, SVG and JavaScript.
 - Visualization is created simply and efficiently with SIMATIC WinCC Unified Engineering in the proven Totally Integrated Automation Portal (TIA Portal).
- Simple and unlimited scalability
 - Simple and consistently scalable for all applications, from the operator panel directly on the machine through to the complex SCADA solution.
 - SIMATIC Unified Comfort Panels and SIMATIC IPCs are provided to ensure optimum utilization of the performance capability of WinCC Unified.
 - Expandable to meet every demand and diverse possibilities for the implementation of requirements using open interfaces.
 - Through flexible data exchange, the system facilitates the interaction of all devices during operation and allows direct access to authorized users from any modern web browser – without the need for any additional installation.

www.siemens.com/wincc-unified-system

Overview**SIMATIC WinCC Unified Engineering**

- Proven engineering in the TIA Portal allows a consistent, efficient, and intuitive solution for all automation tasks.
- Together with the STEP 7 (TIA Portal) products, WinCC (TIA Portal) forms the optimum solution for integrated engineering.
- WinCC Unified Engineering is the configuration software for all applications, from the operator panel directly on the machine through to the complex SCADA solution.
- WinCC Unified Engineering also supports configuration of the SIMATIC Basic Panel, SIMATIC Comfort Panel and WinCC Runtime Advanced.

Application

Depending on the selected product, various target systems can be configured:

- WinCC Unified Comfort Engineering
 - Unified Comfort Panels
 - Additionally Basic Panels, Comfort Panels and Mobile Panels from WinCC Comfort
- WinCC Unified PC Engineering
 - WinCC Unified PC and Unified Comfort Panels
 - Additionally the Basic Panels, Comfort Panels, Mobile Panels and WinCC Runtime Advanced

Design

The engineering tools of the SIMATIC WinCC (TIA Portal) family build on one another with regard to their respective capacities. The available editors are largely determined by the respective configurable target systems and their function.

The larger edition, such as WinCC Unified PC Engineering, always offers the additional possibilities of configuring the target devices of smaller editions (e.g. Unified Comfort Panels). WinCC Unified Engineering also includes configuration of the Basic Panels, Comfort Panels, Mobile Panels, and the WinCC Runtime Advanced.

A Powerpack can be used to upgrade from a smaller edition to a larger one.

The functional scope of the WinCC engineering tools already includes the configuration support for available runtime options, regardless of the RT licenses purchased.

Ordering data**Article No.****SIMATIC WinCC Unified Engineering System****Base Packages V17**

Data storage medium

- WinCC Unified Comfort V17
- WinCC Unified PC (10k) ES V17
- WinCC Unified PC (100k) ES V17
- WinCC Unified PC (max.) ES V17

6AV2151-0XB01-7AA5
6AV2153-2FB01-7AA5
6AV2153-2GB01-7AA5
6AV2153-0XB01-7AA5

Download

- WinCC Unified Comfort V17
- WinCC Unified PC (10k) ES V17
- WinCC Unified PC (100k) ES V17
- WinCC Unified PC (max.) ES V17

6AV2151-0XB01-7LA5
6AV2153-2FB01-7LA5
6AV2153-2GB01-7LA5
6AV2153-0XB01-7LA5

PowerPacks V16..V17

Data storage medium

- WinCC Comfort -> WinCC Unified PC (10k)
- WinCC Unified PC (10k) -> WinCC Unified PC (100k)
- WinCC Unified PC (100k) -> WinCC Unified PC (max.)
- WinCC Advanced and WinCC Prof. 512..4096 -> WinCC Unified PC (100k)
- WinCC Prof. max -> WinCC Unified PC (max.)

6AV2153-2FB20-0AB5
6AV2153-2GB20-0AB5
6AV2153-0XB20-0AB5
6AV2153-2GB60-0AB5
6AV2153-0XB60-0AB5

Download

- WinCC Comfort -> WinCC Unified PC (10k)
- WinCC Unified PC (10k) -> WinCC Unified PC (100k)
- WinCC Unified PC (100k) -> WinCC Unified PC (max.)
- WinCC Advanced and WinCC Prof. 512..4096 -> WinCC Unified PC (100k)
- WinCC Prof. max -> WinCC Unified PC (max.)

6AV2153-2FB20-0LB5
6AV2153-2GB20-0LB5
6AV2153-0XB20-0LB5
6AV2153-2GB60-0LB5
6AV2153-0XB60-0LB5

Base Packages V16

Data storage medium

- WinCC Unified Comfort V16
- WinCC Unified PC (10k) ES V16
- WinCC Unified PC (100k) ES V16
- WinCC Unified PC (max.) ES V16

6AV2151-0XB01-6AA5
6AV2153-2FB01-6AA5
6AV2153-2GB01-6AA5
6AV2153-0XB01-6AA5

Download

- WinCC Unified Comfort V16
- WinCC Unified PC (10k) ES V16
- WinCC Unified PC (100k) ES V16
- WinCC Unified PC (max.) ES V16

6AV2151-0XB01-6LA5
6AV2153-2FB01-6LA5
6AV2153-2GB01-6LA5
6AV2153-0XB01-6LA5

Software Update Service**WinCC Unified Comfort ES Software Update Service**

- Download
- 100k; Download
- 10k; Download
- max; Download

6AV2151-0XB00-0LY5
6AV2153-2GB00-0LY5
6AV2153-2FB00-0LY5
6AV2153-0XB00-0LY5

More information

Additional information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified Runtime

Overview

SIMATIC WinCC Unified Runtime

A simple and consistently scalable PC-based visualization system for all applications, from single-user solutions directly on the machine through to complex SCADA solutions.

The basic package includes visualization, communication, alarms/messages, report creation, system structuring, and user administration.

Furthermore, a client for local operation, an additional WinCC Unified Client Operate for remote operator control and monitoring, and a WinCC Unified Client Monitor for monitoring only are also included in the basic package. Additional clients can be enabled with a license.

SIMATIC WinCC Unified is based on native web technologies such as HTML5, SVG and JavaScript. The visualization can be accessed via any modern web browser – without the need for additional installation.

Open interfaces and option packages allow the expansion and implementation of industry-specific application cases. Once created, components can be used comprehensively on all platforms, whether Panel or PC.

Benefits

Functions for all visualization tasks:

- Operator functions
- Graphics and trend displays
- Alarm logging
- Archiving (optional)
- Management of parameter sets (optional)
- Audit (optional)
- Report creation
- Automated report creation (optional)
- User administration
- Flexible runtime

Functionality with Java scripts:

- Consistently scalable expandable from single-user station to distributed systems
- Process visualization using any modern HTML5-capable web browser

Part of the Totally Integrated Automation Portal:

- Support of the SIMATIC S7-1200/1500 and the SIMATIC S7-300/400 Controllers
 - Access to tags with symbolic and absolute addressing
 - Full text alarms of the SIMATIC S7-1500 Controller
- Support of OPC UA DA (Client and Server), OPC UA A&C (Server)

Open standards for easy integration:

- Efficient real-time database (option)
- Application Program Interface (API)
- OpenPipe interface
- Integration of your own HTML5 controls in the user interface of WinCC Unified

Design

SIMATIC WinCC Unified PC is available as a software package with 150, 500, 1 000, 2 500, 5 000, 10 000, 50 000 or 100 000 PowerTags.

Additionally, a license for the maximum number of PowerTags within the system limit is also available. Data points with an external connection are designated as PowerTags.

At the same time, internal tags which are exempt from the PowerTag license are provided at no charge.

The basic system can be extended as required with option packages.

Requirements

SIMATIC WinCC Unified Runtime Station:

The performance is determined primarily by the hardware equipment. A powerful processor and more work memory should be selected for larger projects and visualization tasks, in particular. Depending on the options used, e.g. logging, additional free hard disk memory is required.

| Hardware requirements (PC systems) | SIMATIC WinCC Unified Runtime |
|------------------------------------|--|
| Processor type | x64 processor, Intel Core i3 or better is recommended for small applications, also Intel Atom or Intel Celeron |
| RAM | 4 GB or better |
| Free hard disk space | 10 GB, 8GB CF or better |

| Operating systems (PC systems) | SIMATIC WinCC Unified Runtime V17 |
|---|--|
| Windows 11 Pro | Windows 11 Pro (64bit) |
| Windows 10 Pro | Windows 10 Pro Version 1909 (64-bit) Windows 10 Pro Version 2004 (64-bit) Windows 10 Pro Version 2009/20H2 (64-bit) |
| Windows 11 Enterprise | Windows 11 Enterprise (64bit) |
| Windows 10 Enterprise | Windows 10 Enterprise Version 1909 (64-bit) Windows 10 Enterprise Version 2004 (64-bit) Windows 10 Enterprise Version 2009 (64-bit) Windows 10 Enterprise Version 20H2 (64-bit) |
| Windows 10 IoT Enterprise LTSC (Test for IPC) | Windows 10 IoT Enterprise 2016 LTSC (64-bit) Windows 10 IoT Enterprise 2019 LTSC (64-bit) |
| Windows Server 2016 Standard | Full installation (64-bit) |
| Windows Server 2019 Standard | Full installation (64-bit) |

Design

| Operating systems (PC systems) | SIMATIC WinCC Unified Runtime V16 |
|---|--|
| Windows 10 Pro | Windows 10 Pro Version 1809 (64-bit) Windows 10 Pro Version 1903 (64-bit) |
| Windows 10 Enterprise | Windows 10 Enterprise Version 1809 (64-bit) Windows 10 Enterprise Version 1903 (64-bit) |
| Windows 10 IoT Enterprise LTSC (Test for IPC) | Windows 10 IoT Enterprise 2015 LTSC (64-bit) Windows 10 IoT Enterprise 2016 LTSC (64-bit) Windows 10 IoT Enterprise 2019 LTSC (64-bit) |
| Windows Server 2012 R2 StdE | Full installation (64-bit) |
| Windows Server 2016 Standard | Full installation (64-bit) |
| Windows Server 2019 Standard | Full installation (64-bit) |

Note:

If more than 5 clients are to be connected to a PC-RT station, use of a server operating system (Windows 10 Server) is essential.

SIMATIC WinCC Unified Runtime Client

An installed HTML5-capable web browser is required on a client to display the graphical user interface of the WinCC Unified Runtime.
In principle, use of the latest available version of the respective browser is recommended.

| Client operating systems | Recommended browser |
|--------------------------|--|
| Microsoft Windows | <ul style="list-style-type: none"> • Google Chrome (preferred) - Version 77 or newer • Microsoft Edge Chromium - Version 88 or newer • Mozilla Firefox - Version 78 or newer • Mozilla Firefox ESR - Version 78.6 or newer |
| Android | <ul style="list-style-type: none"> • Google Chrome (preferred) • Firefox • Edge |
| iOS, Max | <ul style="list-style-type: none"> • Safari (preferred) • Google Chrome • Firefox • Microsoft Edge |

Ordering data**Article No.****SIMATIC WinCC Unified Runtime System****SIMATIC WinCC Unified Runtime System V17****Base Packages**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

Download ¹⁾

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

SIMATIC WinCC Unified Runtime System V17 ASIA**Base Packages**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

6AV2154-3DB01-7AA0
6AV2154-1EB01-7AA0
6AV2154-2EB01-7AA0
6AV2154-2MB01-7AA0
6AV2154-1FB01-7AA0
6AV2154-2FB01-7AA0
6AV2154-1GB01-7AA0
6AV2154-2GB01-7AA0
6AV2154-0XB01-7AA0

6AV2154-3DB01-7LA0
6AV2154-1EB01-7LA0
6AV2154-2EB01-7LA0
6AV2154-2MB01-7LA0
6AV2154-1FB01-7LA0
6AV2154-2FB01-7LA0
6AV2154-1GB01-7LA0
6AV2154-2GB01-7LA0
6AV2154-0XB01-7LA0

6AV2154-3DB01-7BA0
6AV2154-1EB01-7BA0
6AV2154-2EB01-7BA0
6AV2154-2MB01-7BA0
6AV2154-1FB01-7BA0
6AV2154-2FB01-7BA0
6AV2154-1GB01-7BA0
6AV2154-2GB01-7BA0
6AV2154-0XB01-7BA0

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified Runtime**Ordering data****Article No.****SIMATIC WinCC Unified Runtime System V16****Base Packages**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

Download ¹⁾

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

SIMATIC WinCC Unified Runtime System Upgrades

WinCC Unified PC RT Upgrade V16 -> V17

- Data storage medium
- Download ¹⁾

6AV2154-3DB01-6AA0
6AV2154-1EB01-6AA0
6AV2154-2EB01-6AA0
6AV2154-2MB01-6AA0
6AV2154-1FB01-6AA0
6AV2154-2FB01-6AA0
6AV2154-1GB01-6AA0
6AV2154-2GB01-6AA0
6AV2154-0XB01-6AA0

6AV2154-3DB01-6LA0
6AV2154-1EB01-6LA0
6AV2154-2EB01-6LA0
6AV2154-2MB01-6LA0
6AV2154-1FB01-6LA0
6AV2154-2FB01-6LA0
6AV2154-1GB01-6LA0
6AV2154-2GB01-6LA0
6AV2154-0XB01-6LA0

6AV2154-0BB31-7AA0
6AV2154-0BB31-7LA0

Article No.**SIMATIC WinCC Unified Runtime System****PowerPacks**

Data storage medium

- WinCC Unified PC (150->500) RT PowerPack (V16..V17)
- WinCC Unified PC (500->1k) RT PowerPack (V16..V17)
- WinCC Unified PC (1k->2.5k) RT PowerPack (V16..V17)
- WinCC Unified PC (2.5k->5k) RT PowerPack (V16..V17)
- WinCC Unified PC (5k->10k) RT PowerPack (V16..V17)
- WinCC Unified PC (10k->50k) RT PowerPack (V16..V17)
- WinCC Unified PC (50k->100k) RT PowerPack (V16..V17)
- WinCC Unified PC (100k->max.) RT PowerPack (V16..V17)

Download ¹⁾

- WinCC Unified PC (150->500) RT PowerPack (V16..V17)
- WinCC Unified PC (500->1k) RT PowerPack (V16..V17)
- WinCC Unified PC (1k->2.5k) RT PowerPack (V16..V17)
- WinCC Unified PC (2.5k->5k) RT PowerPack (V16..V17)
- WinCC Unified PC (5k->10k) RT PowerPack (V16..V17)
- WinCC Unified PC (10k->50k) RT PowerPack (V16..V17)
- WinCC Unified PC (50k->100k) RT PowerPack (V16..V17)
- WinCC Unified PC (100k->max.) RT PowerPack (V16..V17)

6AV2154-1EB20-0AB0
6AV2154-2EB20-0AB0
6AV2154-2MB20-0AB0
6AV2154-1FB20-0AB0
6AV2154-2FB20-0AB0
6AV2154-1GB20-0AB0
6AV2154-2GB20-0AB0
6AV2154-0XB20-0AB0

6AV2154-1EB20-0LB0
6AV2154-2EB20-0LB0
6AV2154-2MB20-0LB0
6AV2154-1FB20-0LB0
6AV2154-2FB20-0LB0
6AV2154-1GB20-0LB0
6AV2154-2GB20-0LB0
6AV2154-0XB20-0LB0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

Overview

SIMATIC WinCC Unified options

WinCC Unified Audit Basis

Contains the functionality to trace all operator actions related to value changes on tags. Other entries in the Audit Trail can be made by system and script functions.

Licensing:

One RT license is required for each RT station (Panel or PC) to be monitored. The WinCC Unified Report license is required for automatic creation of reports.

WinCC Unified Clients

The WinCC Unified Client is the graphical user interface for interacting with the WinCC Unified Runtime. The WinCC Unified Client accesses the WinCC Unified Runtime via web mechanisms (on the runtime station itself or via a network) for operator control and monitoring of machines and plants. Using the standard web mechanisms, the WinCC Unified images can be displayed on any PCs or mobile devices in the HTML5-capable browser. No additional know-how of the web is necessary for engineering of the WinCC Unified Screens in the TIA Portal. A distinction is made between WinCC Unified Client Operate and WinCC Unified Client Monitor.

WinCC Unified Client Operate

The WinCC Unified Client Operate is used for operator control and monitoring of the WinCC Unified Runtime (Panel or PC).

WinCC Unified Client Monitor

The WinCC Unified Client Monitor is used purely for monitoring the WinCC Unified Runtime (PC). It can be navigated using the operating screens, but the connection to the field for tags is no longer active. Moreover, defined functions, e.g. acknowledgment in the alarm and tag logging control is blocked.

Licensing:

For the WinCC Unified Client, a (server-based) license of the WinCC Unified Runtime is required. The client licenses are provided on the runtime station (the server or HMI Unified Comfort Panel) and are graded in accordance with the number of simultaneous WinCC Unified Web Client access operations. The number of version-independent licenses can be increased at any time via additive WinCC Unified Client licenses (countable licenses).
WinCC Unified Client Operate:
License packages in stages of 1, 3, 10, 30 and 100 WinCC Unified Clients Operate.
WinCC Unified Client Monitor:
License packages in stages of 1, 3 and 10 WinCC Unified Clients Monitor.

Client accesses to the PC Runtime (PC) contained in the WinCC Unified PC Runtime:

- 1 x WinCC Unified Client Operate for local operator control and monitoring
- 1 x WinCC Unified Client Operate for operator control and monitoring via the web client (local or remote)
- 1 x WinCC Unified Client Monitor for monitoring via the web client (local or remote)

Access to the Panel Runtime (Panel) contained in the HMI Unified Comfort Panel:

- 1 x local operator control and monitoring on the HMI Unified Comfort Panel
- 1 x WinCC Unified Client Operate for operator control and monitoring via the web client (remote)
- The Unified Comfort Panel supports up to 3 web clients

WinCC Unified Database Storage

WinCC Unified PC uses a file-based database (SQLite) in the basic system for the archiving of process values and messages. The WinCC Unified Databased Storage option is available for use with greater quantity frameworks or lengthy archiving periods. All archive data is stored in an MS SQL server after installing the option and the license.

Licensing:

WinCC Unified PC: One license per WinCC Unified PC Runtime is required for activating the functionality.

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified options**Overview**WinCC Unified Logging

Option for WinCC Unified for archiving of process values and messages. Process value archiving for the recording, compression and storage of measured values and alarm logging to record events. Online evaluation of process value archives and alarm logs with display and possible operations, for example representation of trends and display of tables, as well as further processing. Powerful standard functions permit user-friendly and flexible utilization of the logs.

Licensing:

SIMATIC Unified Comfort Panels:

- Messages can be logged without an additional license.
- Process values (tags) can be archived without an additional license.
- Utilization of file-based archiving, with the possibility of a maximum 5 000 logging tags

WinCC Unified PC:

- Messages can be logged without an additional license.
- Graded licenses for the number of logging tags used are available for the archiving of process values (tags). This number can be increased at any time via additive WinCC Unified Logging Tags (countable licenses).
- The licenses are divided into 100, 500, 1 000, 5 000, 10 000 and 30 000 logging tags.
- A maximum of 5 000 logging tags are possible with utilization of the file-based archiving (default)
- When using the database-based archiving (optional), the number of logging tags is limited by the performance capability of the PC system being used.

WinCC Unified Parameter Control

Option for SIMATIC WinCC Unified for the generation and management of parameter sets which contain associated machine or production data. The structure of a user data type (PLC UDT or HMI UDT) can be adopted for one or more parameter set types and can be changed automatically using a new user data type version.

Licensing:

SIMATIC Unified Comfort Panels:

- No license is required

WinCC Unified PC:

- One license per WinCC Unified PC Runtime is required for activating the functionality.

WinCC Unified Report Execution

Excel Addin is included in the scope of supply of WinCC Unified to connect WinCC Unified Tags, Logging Tags and Alarms with an Excel report template. The report templates are imported into the WinCC Unified Runtime without the engineering system at runtime, and connected with execution parameters. Afterwards, reports are automatically created cyclically, needs-oriented or event-oriented, stored in Excel and/or PDF format and/or sent by Email.

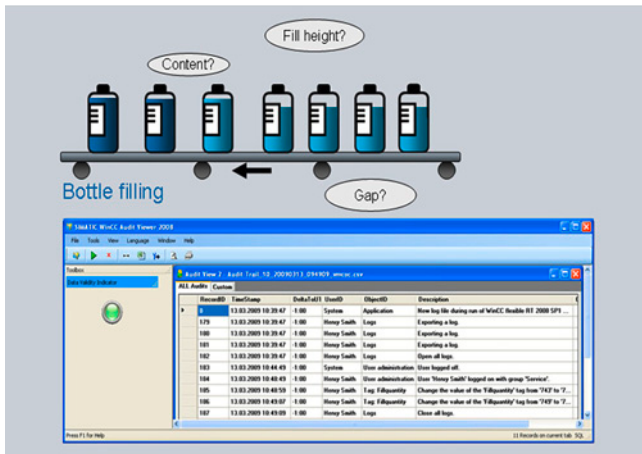
Licensing:

No license is required for the creation of reports in Excel and manual execution of the reports in Excel or from the Report Runtime Control. A WinCC Unified Report Execution license (Panel or PC) is required for the automated cyclic report depending on requirements and events.

WinCC Unified CollaborationLicensing:

Each WinCC Unified Station (Panel or PC) to be connected via Collaboration requires a corresponding license. The scope and type of exchanged data is not limited. The configuration of Collaboration in the engineering system does not require additional licensing.

Overview



WinCC TIA RT Audit

WinCC Unified Audit Basis

Contains the functionality to trace all operator actions related to value changes on tags. Other entries in the Audit Trail can be made by system and script functions.

Tracing can be used to determine who performed which operations on the machine and when.

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.

An RT license is required for each RT station (server) to be monitored. The WinCC Unified Report license is required for automatic creation of reports.

Benefits

- Recording of changes to process data manually, automated or via script
- Commenting changes to process data
- Quick and easy traceability configuration
- Reduction in plant downtimes thanks to fast analysis of the Audit Trail information recorded gap-free
- The Audit Trail is furnished with a security mechanism with which subsequent manipulations can be detected.
- Gap-free and automated recording of value changes on tags
- Additional entries through a system function or script function
- The Audit Trail entry can be acknowledged without a comment, with an individual comment or with a pre-defined comment from a configurable text list
- Task of Audit Trail with WinCC Unified Report in an Excel or PDF report during runtime
- The reports can be sent via email

Ordering data

Article No.

WinCC Unified Audit Basis V17

- Data storage medium
- Download

6AV2157-0BL01-7AB0
6AV2157-0BL01-7LB0

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified options > WinCC Unified Clients

Overview

WinCC Unified Clients

The WinCC Unified Client is the graphical interface for the WinCC Unified Runtime.

The WinCC Unified Client accesses the WinCC Unified Runtime via web mechanisms (on the Runtime Station itself or via agepard_dp@i.uanetwork) to operate and monitor machines and plants. Using the standard web mechanisms, the WinCC Unified images can be displayed on any PCs or mobile devices in the HTML5-capable browser.

No additional know-how of the web is necessary for engineering of the WinCC Unified Screens in the TIA Portal.

Two types of clients are available:

- WinCC Unified Client for operator control and monitoring processes
- WinCC Unified Client Monitor for monitoring only (View-Only)

Licensing

SIMATIC HMI Unified Comfort Panels:

A (Panel-based) license of the Panel is required for the WinCC Unified Client.

A WinCC Unified Client (Operate) license is already included with each Panel. It can be extended with the WinCC Unified Client licenses.

Three clients are permissible on the WinCC Unified Comfort Panel.

SIMATIC WinCC Unified PC:

A (server-based) license of WinCC Unified PC Runtime is required for the WinCC Unified Client.

Two WinCC Unified Client licenses and one WinCC Unified Client Monitor license are already included with each WinCC Unified PC Runtime licensing:

- For local operation on the runtime station
- For remote operation via an additional independent client.
- For local or remote monitoring via an additional independent Monitor client.

The client licenses are located on the WinCC Unified RT Station or the Unified Comfort Panel and are graded according to the number of simultaneous WinCC Unified web client access operations.

The number can be increased at any time via additive WinCC Unified Client licenses (countable licenses).

Version-independent license packages are available with 1, 3, 10, 30 or 100 WinCC Unified Clients or 1, 3, 10 WinCC Unified Monitor Clients.

Benefits

WinCC Unified Client (Operate)

- Parallel, global web-based operator control and monitoring
- Highest level of flexibility
 - Independent of browser and platform (PCs, tablets, smartphones)
 - No installation of software required on the client device, a web browser is generally present
- Minimized maintenance costs with central software administration on the server
 - No maintenance workload on the client
 - No engineering on the client side
- Scalability
 - Supplementation of new operating stations without installation
 - Central license management on the runtime station (the server)
- Independent of version between WinCC Unified PC Runtime and WinCC Unified Client
- High Internet security standards
- Fast update rates (e.g. after value change, picture change)
- Efficient remote diagnostics for production plant through web access
- Future-proof due to the utilization of accepted standards (HTML5, SVG)

WinCC Unified Client (Monitor)

- The WinCC Unified Client Monitor is identical to the Unified Client, but the connection to the field is interrupted.
- Setting the monitoring right per user
- External tag connections are interrupted
- Acknowledge and Reset of active alarms is blocked
- Commenting, deleting, releasing and locking of archived alarms is blocked
- Writing, correcting, commenting and deleting logged alarms is blocked

| Ordering data | Article No. | More information | |
|---------------------------------------|---------------------------|--|--|
| SIMATIC WinCC Unified options | | | |
| WinCC Unified Client (Operate) | | | |
| Data storage medium | | | |
| • WinCC Unified Clients Operate (1) | 6AV2157-1JW00-0AB0 | More information is available on the Internet at: http://www.siemens.com/wincc-unified-system | |
| • WinCC Unified Clients Operate (3) | 6AV2157-3JW00-0AB0 | | |
| • WinCC Unified Clients Operate (10) | 6AV2157-2CW00-0AB0 | | |
| • WinCC Unified Clients Operate (30) | 6AV2157-6CW00-0AB0 | | |
| • WinCC Unified Clients Operate (100) | 6AV2157-2DW00-0AB0 | | |
| Download | | | |
| • WinCC Unified Clients Operate (1) | 6AV2157-1JW00-0LB0 | | |
| • WinCC Unified Clients Operate (3) | 6AV2157-3JW00-0LB0 | | |
| • WinCC Unified Clients Operate (10) | 6AV2157-2CW00-0LB0 | | |
| • WinCC Unified Clients Operate (30) | 6AV2157-6CW00-0LB0 | | |
| • WinCC Unified Clients Operate (100) | 6AV2157-2DW00-0LB0 | | |
| WinCC Unified Client (Monitor) | | | |
| Data storage medium | | | |
| • WinCC Unified Clients Monitor (1) | 6AV2157-1JM00-0AB0 | | |
| • WinCC Unified Clients Monitor (3) | 6AV2157-3JM00-0AB0 | | |
| • WinCC Unified Clients Monitor (10) | 6AV2157-2CM00-0AB0 | | |
| Download | | | |
| • WinCC Unified Clients Monitor (1) | 6AV2157-1JM00-0LB0 | | |
| • WinCC Unified Clients Monitor (3) | 6AV2157-3JM00-0LB0 | | |
| • WinCC Unified Clients Monitor (10) | 6AV2157-2CM00-0LB0 | | |

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified options > WinCC Unified Database Storage**Overview****SIMATIC WinCC Unified options****WinCC Unified Database Storage**

SIMATIC WinCC Unified PC uses a file-based database (SQLite) in the basic system for the archiving of process values and messages. The WinCC Unified Databased Storage option is available for use with greater quantity frameworks or lengthy archiving periods. All archive data is stored in an MS SQL server after installing the option and the license.

Licensing

SIMATIC WinCC Unified PC:

- One license per WinCC Unified PC Runtime is required for activating the functionality.
- Alarms can be logged without an additional license.
- Licenses for the number of logging tags used are required for the archiving of process values (tags). This number can be increased at any time via additive WinCC Unified logging tags (countable licenses).

Ordering data**Article No.****SIMATIC WinCC Unified options****WinCC Unified Database Storage V17**

- Data storage medium
- Download ¹⁾

6AV2154-0BS01-7AA0**6AV2154-0BS01-7LA0****Upgrade V16 -> V17**

- Data storage medium
- Download ¹⁾

6AV2154-0BS31-7AA0**6AV2154-0BS31-7LA0****WinCC Unified Database Storage V16**

- Data storage medium
- Data storage medium
- Download ¹⁾

6AV2154-0BS01-6AA0**6AV2154-0BS01-6LA0**

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

Overview**WinCC Unified Logging**

Option for WinCC Unified for archiving of process values and messages. Process value archiving for the recording, compression and storage of measured values and alarm logging to record events. Online evaluation of process value archives and alarm logs with display and possible operations, for example representation of trends and display of tables, as well as further processing. Powerful standard functions permit user-friendly and flexible utilization of the logs.

LicensingSIMATIC HMI Unified Comfort Panels:

- Messages can be logged without an additional license.
- Process values (tags) can be archived without an additional license.
- Utilization of file-based archiving, with the possibility of a maximum 5 000 logging tags

SIMATIC WinCC Unified PC:

- Messages can be logged without an additional license.
- Graded licenses for the number of logging tags used are available for the archiving of process values (tags). This number can be increased at any time via additive WinCC Unified Logging Tags (countable licenses).
- The licenses are divided into 100, 500, 1 000, 5 000, 10 000 and 30 000 logging tags.
- A maximum of 5 000 logging tags are possible with utilization of the file-based archiving (default)
- When using the database-based archiving (optional), the number of logging tags is limited by the performance capability of the PC system being used.

Benefits

- Process value logging is used to record and archives process data from the plant.
- The alarm log is used to archive any alarms which are issued in the monitored process.
- This archiving can be used to analyze fault states and to document the process.
- A subsequent evaluation of the archived process data then provides you with essential information regarding the operating state of a plant.
- The logs allow hazardous conditions and faults to be identified in good time, known as predictive diagnostics, which in turn avoids downtimes
- Increase of product quality and productivity due to regular evaluation of the logs

Ordering data**Article No.****SIMATIC WinCC Unified options****WinCC Unified Logging**

Data storage medium

| | |
|-------------------------------------|---------------------------|
| • WinCC Unified Logging Tags (100) | 6AV2157-2DA00-0AB0 |
| • WinCC Unified Logging Tags (500) | 6AV2157-1EA00-0AB0 |
| • WinCC Unified Logging Tags (1000) | 6AV2157-2EA00-0AB0 |
| • WinCC Unified Logging Tags (5000) | 6AV2157-1FA00-0AB0 |
| • WinCC Unified Logging Tags (10k) | 6AV2157-2FA00-0AB0 |
| • WinCC Unified Logging Tags (30k) | 6AV2157-6FA00-0AB0 |
| Download ¹⁾ | |
| • WinCC Unified Logging Tags (100) | 6AV2157-2DA00-0LB0 |
| • WinCC Unified Logging Tags (500) | 6AV2157-1EA00-0LB0 |
| • WinCC Unified Logging Tags (1000) | 6AV2157-2EA00-0LB0 |
| • WinCC Unified Logging Tags (5000) | 6AV2157-1FA00-0LB0 |
| • WinCC Unified Logging Tags (10k) | 6AV2157-2FA00-0LB0 |
| • WinCC Unified Logging Tags (30k) | 6AV2157-6FA00-0LB0 |

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

More information is available on the Internet at:
<http://www.siemens.com/wincc-unified-system>

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified options > WinCC Unified Parameter Control**Overview****WinCC Unified Parameter Control**

Option for SIMATIC WinCC Unified for the generation and management of parameter sets which contain associated machine or production data. The structure of a user data type (PLC UDT or HMI UDT) can be adopted for one or more parameter set types and can be changed automatically using a new user data type version.

Licensing:

SIMATIC HMI Unified Comfort Panels:

- No license is required

SIMATIC WinCC Unified PC:

- One license per WinCC Unified PC Runtime is required for activating the functionality.

Benefits

- An expansive selection of parameters can be exchanged between the operator panel and PLC manually or automatically in order to convert production to another product variant.
- Simple operator guidance due to configurable image object
- Export/import of parameter sets for creation or further processing with other tools (e.g. MS Excel)

Ordering data**Article No.****SIMATIC WinCC Unified options****WinCC Unified Parameter Control V17**

Data storage medium

- WinCC Unified Parameter Control (PC) V17

6AV2154-0BP01-7AB0Download ¹⁾

- WinCC Unified Parameter Control (PC) V17

6AV2154-0BP01-7LB0**Upgrade****WinCC Unified Parameter Control (PC) V16 -> V17**

- Data storage medium

Download ¹⁾**6AV2154-0BP31-7AB0****6AV2154-0BP31-7LB0****WinCC Unified Parameter Control V16**

Data storage medium

- WinCC Unified Parameter Control (PC)

6AV2154-0BP01-6AB0Download ¹⁾

- WinCC Unified Parameter Control (PC)

6AV2154-0BP01-6LB0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

Overview**WinCC Unified Report Execution**

An Excel Add-in is included in the scope of supply of WinCC Unified to connect WinCC Unified data (tags, alarms, etc.) with an Excel report template.

The report templates are imported into the WinCC Unified Runtime without the engineering system at runtime. The reports can be created automatically or manually, stored in the format (Excel, PDF), and sent via secured or unsecured email.

The corresponding execution parameters (execution time, trigger, email contacts) are configured in the control for automatic report generation.

Licensing:

No license is required for the creation of reports in Excel and manual execution of the reports in Excel or from the Report Runtime Control.

For each WinCC Unified RT (HMI Unified Comfort Panel or PC), a WinCC Unified Report Execution license is required for the automated cyclic report dependent on requirements and events.

BenefitsWinCC Unified Report Execution

- Full transparency via WinCC Unified Tags, Logging Tags and Alarms
- Filter mechanism for the selection of alarms and tags
- Insertion of individual values and time series data
- Call of the WinCC Unified alarm statistics
- Automatic insertion of pre-defined formulas in time-series data
- Individual creation of report templates with the familiar MS Excel and Excel Online
- Activation of created report templates during the runtime without Engineering System
- Automated cyclic report creation based on requirements, context or events
- Individual reports in Excel format without Excel installation
- Individual reports in PDF format with Excel or LibreOffice-Calc installation
- Sending of created reports via email

Ordering data**Article No.****SIMATIC WinCC Unified options****WinCC Unified Report Execution V17**

- WinCC Unified Report
- Data storage medium
- Download ¹⁾

6AV2157-0BQ01-7AB0
6AV2157-0BQ01-7LB0

WinCC Unified Report Execution V16

- WinCC Unified Report
- Data storage medium
- Download ¹⁾

6AV2157-0BQ01-6AB0
6AV2157-0BQ01-6LB0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified options > WinCC Unified Collaboration**Overview****WinCC Unified Runtime Collaboration**

The option for Unified Collaboration offers the possibility to connect several Unified systems (Panels and PC) with each other and to exchange data in runtime. For example, process displays from other stations can be referenced and shown in a display window to easily and efficiently create plant overview displays.

Licensing

SIMATIC HMI Unified Comfort Panels and SIMATIC WinCC Unified PC:

Each WinCC Unified Station (Panel or PC) to be connected via Collaboration requires a corresponding license.

The volume and type of data exchanged is not limited. The configuration of Collaboration in the engineering system does not require additional licensing.

Benefits

- Configuration of distributed Unified systems
- Integration and display of contents of other Unified stations without duplicated configuration work
- Cross-project configuration possible via export and import

Ordering data**Article No.****SIMATIC WinCC Unified options****WinCC Unified Collaboration V17**

Data storage medium

- WinCC Unified Collaboration (PC & Panel)
- Upgrade V16->V17 WinCC Unified Collaboration (PC & Panel)

6AV2154-0BR01-7AB0**6AV2154-0BR31-7AB0**

Download ¹⁾

- WinCC Unified Collaboration (PC & Panel)
- Upgrade V16->V17 WinCC Unified Collaboration (PC & Panel)

6AV2154-0BR01-7LB0**6AV2154-0BR31-7LB0****WinCC Unified Collaboration V16**

Data storage medium

- WinCC Unified Collaboration (PC)
- WinCC Unified Collaboration (PC)

6AV2154-0BR01-6AB0**6AV2154-0BR01-6LB0**

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

Overview

Plant Intelligence options

With the SIMATIC WinCC Unified Plant Intelligence options, it is possible to expand SIMATIC WinCC Unified Runtime in line with the requirements on the production plant and visualize it in HMI.

The options allow you to plan production processes and analyze and optimize the overall effectiveness of your plant.

Note:

The SIMATIC WinCC Unified Plant Intelligence options can be used on a PC system. The technological plant hierarchy is a prerequisite for using the SIMATIC WinCC Unified Plant Intelligence options.

WinCC Unified Calendar:

Planning, configuration and management of events and actions in one general calendar in WinCC Unified (including connection of tags or scripts).

WinCC Unified Performance Insight:

Definition, calculation and analysis of plant-specific KPIs for individual plant units, machines or entire production lines in machine or line-oriented production plants.

HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

SIMATIC WinCC Unified Plant Intelligence options > WinCC Unified Calendar

Overview

WinCC Unified Calendar

Recurring, calendar-related working times (shifts) and processes (switching commands) can be planned and modified in advance using the WinCC Unified Calendar.

Planning is based on predefined templates and a time model. This time model is used equally for the "WinCC Unified Calendar" and "WinCC Unified Performance Insight" options.

A technological system hierarchy for the project is created in the TIA Portal. One main calendar is assigned to one branch (main node or root node) within this hierarchy. For runtime (within WinCC Unified Runtime), templates can be created for this main calendar and planning for working times and processes can be defined. Planning takes effect automatically for its "hierarchical children"; they can be supplemented or modified there.

The "WinCC Unified Calendar" option is only available for the WinCC Unified PC system.

Benefits

- Definition of uniform time categories and the selection of usable process tags as a switching command in the TIA Portal
- Planning of working times and processes during runtime
 - Management of shift and day templates, as well as switching actions relative to shift events (start, end)
 - Creation of planning based on templates
 - Modification of planning of hierarchically subordinate system components
 - Definition of recurring, cyclic shifts
- Import and export of templates and planning
- Runtime openness (API) interface
- Use of maintained shifts as criteria for calculating indicators via the "WinCC Unified Performance Insight" option

Application

WinCC Unified Calendar serves user groups which have structured a plant via a plant hierarchy and want to define recurring events within this hierarchy.

Design

With WinCC Unified Calendar licensing, it is possible to manage templates and the use/planning within a main node via the option. Modifications and adaptations of planning hierarchically subordinate system components is possible. The license is stored on the assigned WinCC Unified runtime station. If other main nodes are created and managed on this WinCC Unified runtime station, additional extension licenses for each additional main node are necessary. These extension licenses are additive (countable licenses).

The necessary runtime and engineering components are supplied with the licenses.

Ordering data

Article No.

WinCC Unified Calendar V17

[Download^{1\)}](#)

- WinCC Unified Calendar Base
- WinCC Unified Calendar Extension (1)

6AV2156-0BC01-7LA0
6AV2156-1JC00-0LB0

WinCC Unified Calendar Base Upgrade V16 -> V17

[Download^{1\)}](#)

6AV2156-0BC31-7LA0

WinCC Unified Calendar V16

[Download^{1\)}](#)

- WinCC Unified Calendar Base

6AV2156-0BC01-6LA0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

Additional information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

Overview

WinCC Unified Performance Insight

The WinCC Unified Performance Insight can be used to calculate and analyze plant-specific indicators for individual plant units, machines or entire production lines in machine or line-oriented production plants with WinCC Unified PC systems.

Licensing:

A version-specific Runtime basic license is required to use the option.

In addition, every plant object to which a Performance Insight configuration (e.g. KPI, operand) is assigned either directly or via the plant object type is an "analyzed plant object" in the licensing context.

Graded licenses are available for analyzing plant objects. This number can be increased at any time via additive plant objects (countable licenses). The licenses are divided into 10, 30, 100 and 300 plant objects.

The configuration of Performance Insight in the engineering does not require a license.

Benefits

Demonstration of weak points in production processes and deriving optimization potential.

- Flexible - individual calculation of plant-specific indicators in WinCC Unified
- Creating relationships - recognizing indicators in context, e.g. availability per shift
- Optimally informed - analyzing indicators in WinCC Unified Runtime as a bar graph, Gantt chart or table even via Web
- Expandable - adding indicators in existing plants without production losses
- Getting results fast - short configuration time and familiarization time thanks to integration in WinCC Unified

Application

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

KPIs and operands from Performance Insight are automatically created in event- or time-controlled Excel reports and used by management for production analysis and documentation.

For maintenance, the web client of the WinCC Unified 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 Unified resources to keep machine operators up to date.

Design

Fault analyses provide information about the frequency and duration of machine or plant downtimes. The included controls can be effortlessly integrated in WinCC Unified process pictures.

The determined data gives information on the effectiveness of individual machines and of entire production plants. The transparency of the data allows for a quick response and countermeasures in the event of faults, which increases the availability of the machine. Structuring of the production plant constituting central elements for evaluation (equipment efficiency)

- Can be used for individual machines or even complete production plants
- Easy integration in existing WinCC Unified plants
- Cyclic or event-controlled calculation of indicators (KPIs)

All of the analysis results are integrated in the form of controls in WinCC Unified screens. Bar (performance), trend (Gantt) and table views are available in WinCC Unified process pictures. Complete transparency throughout the machine park as the basis for optimizing plant productivity via automatic execution of reports.

- Recognition of production relationships
- Calculation of downtimes and localization of sources
- Weak-point analysis in production processes.

Ordering data

Article No.

WinCC Unified Performance Insight

Base V17

Download; email address required for delivery

- WinCC Unified Performance Insight (PC) Base incl. 3 analyzed plant objects
- WinCC Unified Performance Insight (PC) Base Upgrade V16/V17

6AV2156-0BP01-7LA0

6AV2156-0BP31-7LA0

Extension

Download; email address required for delivery

- 10 analyzed plant objects
- 30 analyzed plant objects
- 100 analyzed plant objects
- 300 analyzed plant objects

6AV2156-2CP00-0LB0

6AV2156-6CP00-0LB0

6AV2156-2DP00-0LB0

6AV2156-0XP00-0LB0

Base V16

Download; email address required for delivery

- WinCC Unified Performance Insight (PC) Base incl. 3 analyzed plant objects

6AV2156-0BP01-6LA0

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal)**Overview**SIMATIC WinCC Runtime Professional visualization software

- PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients. WinCC Runtime Professional is the information hub for corporation-wide vertical integration.
- Industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration, can be expanded flexibly with VB and C scripts
- Basic package expandable by means of option packages
- Also included are APIs for the Runtime to utilize the open programming interfaces

<http://www.siemens.com/wincc-professional>

SIMATIC WinCC (TIA Portal) engineering software

Family of configuration systems with WinCC Basic, Comfort, Advanced and Professional for SIMATIC operator panels, as well as for the WinCC Runtime Advanced and WinCC Runtime Professional PC-based visualization systems.

SIMATIC WinCC Runtime Advanced visualization software

- PC-based operator control and monitoring solution for single-user systems directly at the machine
- Basic package for visualization, reporting and logging, user administration, can be expanded flexibly with VB scripts
- Basic package expandable by means of option packages
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the intranet and Internet in combination with Email communication

<http://www.siemens.com/wincc-advanced>

Overview

- Integrated family of engineering tools for configuring SIMATIC HMI operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional.
- WinCC (TIA Portal) is based on the new central engineering framework Totally Integrated Automation Portal (TIA Portal), which offers the user a uniform, efficient and intuitive solution to all automation tasks.
- WinCC (TIA Portal) also offers uniform engineering from the Basic Panel through to SCADA applications.
- Together with the STEP 7 (TIA Portal) products, WinCC (TIA Portal) forms the optimum solution for integrated, efficient engineering.

Current version:

- SIMATIC WinCC Basic V17
- SIMATIC WinCC Comfort V17
- SIMATIC WinCC Advanced V17
- SIMATIC WinCC Professional V17

Benefits

- The integrated configuration software reduces training, maintenance and service overhead and protects the customer's investments.
- Minimized engineering overhead and reduction of lifecycle costs thanks to Totally Integrated Automation (TIA)
- Minimized configuration overhead due to reuse of scalable and dynamizable objects
- Intelligent tools for efficient and simple configuration:
 - Wizard for defining the basic structure of the HMI project
 - Table-based editors simplify the generation and processing of similar types of objects, e.g. for tags, texts, or alarms.
 - Complex configuration tasks such as the definition of paths of motion or the creation of the fundamental operator prompting are simplified by means of graphical configuration.
- Comprehensive support of multi-language configurations for worldwide use
 - Selectable views for entering configuration data in several languages
 - System and user-specific text lexicons
 - Export/import of language-dependent texts
- Security of investment due to
 - Import of the configuration from WinCC flexible 2008 SP2, 2008 SP3 and 2008 SP5
 - Import of the configuration from WinCC V7.3, V7.4 and V7.5

Application

SIMATIC WinCC in the editions Basic, Comfort, Advanced and Professional are innovative engineering tools for configuring SIMATIC HMI operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional.

Depending on the selected product, various target systems can be configured:

WinCC Basic

- Basic Panels 1st Generation
- Basic Panels 2nd Generation

WinCC Comfort

As WinCC Basic, plus:

- Comfort Panels
- Mobile Panels 2nd Generation
- Mobile Panels x77 Series

WinCC Advanced

As WinCC Comfort, plus:

- SIMATIC PCs with WinCC Runtime Advanced:
 - SIMATIC Rack PCs
 - SIMATIC Box PCs
 - SIMATIC Panel PCs
 - SIMATIC S7 Open Controllers
- Standard PC with WinCC Runtime Advanced
- SINUMERIK PC: PCU 50.3, PCU 50.5

WinCC Professional

As WinCC Advanced, plus:

- SIMATIC PCs with WinCC Runtime Professional
 - SIMATIC Rack PCs
 - SIMATIC Box PCs
 - SIMATIC Panel PCs
- Standard PC with WinCC Runtime Professional

Design

The functionalities of the engineering tools of the SIMATIC WinCC family are based on each other. The available editors are largely determined by the respective configurable target systems and their function. A more comprehensive engineering tool such as WinCC Advanced can always be used to configure lower-level target devices as well (e.g. Basic Panels)

A Powerpack can be used to upgrade from a smaller edition to a larger one. This does not apply to WinCC Basic.

The functionality of WinCC engineering tools already contains the configuration support of the available Runtime options for SIMATIC Panels, WinCC Runtime Advanced or WinCC Runtime Professional, irrespective of the purchased RT licenses.

A separate license is required for the target system when using the configured Runtime options.

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Engineering**Function****Integration into automation systems**

Integration into the SIMATIC Totally Integrated Automation Portal (TIA Portal)

- Shared data management and uniform symbols via the controller and HMI
- Optimum interaction between the controller and HMI in a working environment
- System diagnostics as an integral component
- Shared use of communication settings and process point definitions
- Simple dragging and dropping of tags from STEP 7 to an HMI device, e.g. onto a screen
- Excellent support for the new SIMATIC S7-1500 Controllers
 - With symbolic addressing
 - Access to the new memory-optimized data blocks
 - New alarm and diagnostics concept

Configuration interface

- Intuitive user interfaces with maximum degree of user friendliness
- Comprehensive and fast access to editors and project data
- Adaptive user interface of engineering tools depending on configured target system
- User-definable user interface settings, e.g. layout, toolbars
- Integrated mass data operations for efficient configuration

Project handling

- Device-independent configuration data can be used on a variety of target systems without the need for conversion. The interface adapts itself to the functional possibilities of the target device.
- Cross-device utilization of common configuration data (e.g. message classes, text library) in multi-device projects
- Wizard-assisted definition of basic structure of HMI projects (e.g. display layout, operator prompting)

Screen editor with comprehensive options for efficient and fast screen configuration

- Generation of interconnected screen objects via Drag&Drop, e.g. tags for the creation of input/output fields with process interfacing or buttons with screen selection function
- Definition of screen templates and functions (comparable with the Slide Master in MS PowerPoint)
- User-friendly editor for the creation of faceplates with defined external interface from screen objects
- Graphics-based configuration of motion paths
- Layer technology with up to 32 layers
- Tools for the Align, Rotate and Mirror functions

Import/export

- Of tags, links, text lists, and alarms

Tabular editors

- Quick and easy generation and modification of configuration objects of the same type, e.g. tags, texts or messages, in tabular editors
- Intelligent default settings depending on previously configured data, e.g. automatic incrementing of addresses when generating consecutive tags
- Simple access to the properties of an object without superfluous user intervention
- Simultaneous modification of common object properties

Object-based data management with user-friendly search and edit options

- Configuration of alarms and logs directly on the HMI tag, no switching between different editors
- Cross-reference list with direct access to all objects, e.g. for editing or selection
- Search for objects in entire project
- Text search and replace functions

Project documentation

- Selective project documentation, the following contents can be printed:
 - An entire project
 - One or more project-associated devices
 - Contents of an editor
 - Libraries

Libraries for predefined/user-defined configuration objects

- Storage of all configuration objects in the library, e.g. blocks and even entire screens or tags
- Faceplates can be constructed from simple screen objects on a customer-specific or project-specific basis. Changes to these faceplates can be made centrally (block definition).
- A large number of scalable and dynamizable screen objects is included in the scope of supply
- Size-scalable graphics for industrial applications are included in the scope of supply
- Preview function for library objects

Function

Language support

- Multilingual project creation (max. 32 languages) in editors thanks to selectable views
- Central management of language-specific texts and graphics in libraries
- Edit, export and import of texts for translation
- Language-specific graphics

Visual Basic and C-Script Support

- IntelliSense function for fast programming of access to runtime objects
- Simple creation of control sequences in script code
- Visual Basic Script debugging in simulator and WinCC Runtime Advanced and WinCC Runtime Professional

Test and commissioning support

- Simulation of HMI projects on engineering PC
- Marking of incomplete or incorrect configuration directly in the respective editor
- Jump to error cause based on alarm messages in the Compiler

Migration of existing HMI projects

- Data transfer in projects from WinCC flexible
- Data transfer in projects from WinCC

System requirements

| WinCC Engineering software | |
|-------------------------------------|---|
| Processor type (recommended) | Intel® Core™ i5-8400H (2.5 to 4.2 GHz) |
| RAM (recommended) | 16 GB or more (32 GB for large projects) |
| Hard disk | SSD with at least 50 GB storage space available |
| Operating systems | 64-bit operating systems <ul style="list-style-type: none"> • Windows 10 Home Version 1909 / 2004 / 2009 / 20H2 (only WinCC Basic) • Windows 10 Professional Version 1909 / 2004 / 2009 / 20H2 • Windows 10 Enterprise Version 1909 / 2004 / 2009 / 20H2 • Windows 10 Enterprise 2016 / 2019 LTSC / LTSC • Windows Server 2016 / 2019 Standard |
| Screen resolution | Recommended 1 920 x 1 080 |
| Optical drive | DVD-ROM |

Note:

Opening several instances of WinCC on your engineering PC at the same time may result in more demanding hardware requirements.

In addition to WinCC, Windows also requires space on the hard disk; e.g. free storage space should be available for the swap file. The following formula has proven itself in the past:
Size of swap file = 3 x size of RAM.

For more information, refer to your Windows documentation

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Engineering**Ordering data****Article No.****SIMATIC WinCC Basic software****SIMATIC WinCC Basic V17**

- Data storage medium
- Download ¹⁾

6AV2100-0AA07-0AA5
6AV2100-0AA07-0AH5

SIMATIC WinCC Comfort V17

- Data storage medium
- Download ¹⁾

6AV2101-0AA07-0AA5
6AV2101-0AA07-0AH5

SIMATIC WinCC Advanced V17

- Data storage medium
- Download ¹⁾

6AV2102-0AA07-0AA5
6AV2102-0AA07-0AH5

SIMATIC WinCC Professional V17

Data storage medium

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-0DA07-0AA5
6AV2103-0HA07-0AA5
6AV2103-0XA07-0AA5

Download ¹⁾

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-0DA07-0AH5
6AV2103-0HA07-0AH5
6AV2103-0XA07-0AH5

**SIMATIC STEP 7 /
SIMATIC WinCC Trial Licenses**

**SIMATIC STEP 7 Basic/
Professional;
SIMATIC WinCC Basic/Comfort/
Advanced V17,
Trial License, on data storage
medium, 21 day trial**

6AV2102-0AA07-0AA7

**SIMATIC STEP 7 Basic/
Professional;
SIMATIC WinCC Professional
V17, Trial License
on data storage medium,
21 day trial**

6AV2103-0AA07-0AA7

**SIMATIC 50 h Engineering V17
with STEP 7 Professional Combo,
WinCC Professional
(incl. WinCC flexible 2008) and
STEP 7 Safety Advanced
(incl. Distributed Safety)**

6ES7823-1GE07-0YA5

**PowerPacks (without version
change)****SIMATIC WinCC Basic -> Comfort**

- Data storage medium
- Download ¹⁾

6AV2101-2AA00-0BD5
6AV2101-2AA00-0BJ5

**SIMATIC WinCC Comfort ->
Advanced**

- Data storage medium
- Download ¹⁾

6AV2102-2AA00-0BD5
6AV2102-2AA00-0BJ5

**SIMATIC WinCC Advanced ->
Professional**

Data storage medium

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-2AD00-0BD5
6AV2103-2DH00-0BD5
6AV2103-2HX00-0BD5

Download¹⁾

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-2AD00-0BJ5
6AV2103-2DH00-0BJ5
6AV2103-2HX00-0BJ5

Article No.**Upgrades****WinCC V11..16 -> WinCC V17**

Data storage medium

- SIMATIC WinCC Basic
- SIMATIC WinCC Comfort
- SIMATIC WinCC Advanced
- SIMATIC WinCC Professional
512 PowerTags
- SIMATIC WinCC Professional
4 096 PowerTags
- SIMATIC WinCC Professional
max. PowerTags

6AV2100-3AA07-0AE5
6AV2101-3AA07-0AE5
6AV2102-3AA07-0AE5
6AV2103-3DA07-0AE5

6AV2103-3HA07-0AE5

6AV2103-3XA07-0AE5

Download ¹⁾

- SIMATIC WinCC Basic
- SIMATIC WinCC Comfort
- SIMATIC WinCC Advanced
- SIMATIC WinCC Professional
512 PowerTags
- SIMATIC WinCC Professional
4 096 PowerTags
- SIMATIC WinCC Professional
max. PowerTags

6AV2100-3AA07-0AK5
6AV2101-3AA07-0AK5
6AV2102-3AA07-0AK5
6AV2103-3DA07-0AK5

6AV2103-3HA07-0AK5

6AV2103-3XA07-0AK5

**WinCC flexible 2008 to
WinCC V17**

- WinCC flexible Compact to
WinCC Comfort
- WinCC flexible Standard to
WinCC Comfort
- WinCC flexible Advanced to
WinCC Advanced

6AV2101-4AB07-0AE5

6AV2101-4BB07-0AE5

6AV2101-4AA07-0AE5

Download ¹⁾

- WinCC flexible Compact to
WinCC Comfort
- WinCC flexible Standard to
WinCC Comfort
- WinCC flexible Advanced to
WinCC Advanced

6AV2101-4AB07-0AK5

6AV2101-4BB07-0AK5

6AV2101-4AA07-0AK5

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

| Ordering data | Article No. | Article No. |
|--|--|---|
| SIMATIC WinCC Basic software | | |
| SIMATIC WinCC Basic V16 • Data storage medium • Download ¹⁾ | 6AV2100-0AA06-0AA5 6AV2100-0AA06-0AH5 | Software Update Service For a period of 12 months and for a fixed price, the customer is automatically provided with all upgrades and Service Packs for each installed WinCC engineering system or option. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration. Software Update Service (Standard Edition) The delivery is implemented according to the number of ordered SUS products (e.g. 10 upgrade packages with 10 DVDs, 10 USB flash drives, etc.) • SIMATIC WinCC Comfort • SIMATIC WinCC Advanced • SIMATIC WinCC Professional 512 PowerTags • SIMATIC WinCC Professional 4 096 PowerTags • SIMATIC WinCC Professional max. PowerTags Download ¹⁾ Email address required for delivery • SIMATIC WinCC Comfort • SIMATIC WinCC Advanced • SIMATIC WinCC Professional 512 PowerTags • SIMATIC WinCC Professional 4 096 PowerTags • SIMATIC WinCC Professional max. PowerTags Software Update Service (Compact Edition) The delivery items are combined. For several contracts, only 1 package with 1 data storage medium set, 1 USB flash drive with the corresponding number of licenses and the corresponding number of CoLs will be supplied. Delivery items to be combined must be ordered as one item. • SIMATIC WinCC Comfort • SIMATIC WinCC Advanced • SIMATIC WinCC Professional 512 PowerTags • SIMATIC WinCC Professional 4 096 PowerTags • SIMATIC WinCC Professional max. PowerTags |
| SIMATIC WinCC Comfort V16 • Data storage medium • Download ¹⁾ | 6AV2101-0AA06-0AA5 6AV2101-0AA06-0AH5 | |
| SIMATIC WinCC Advanced V16 • Data storage medium • Download ¹⁾ | 6AV2102-0AA06-0AA5 6AV2102-0AA06-0AH5 | |
| SIMATIC WinCC Professional V16 Data storage medium • 512 PowerTags • 4 096 PowerTags • Max. PowerTags Download ¹⁾ • 512 PowerTags • 4 096 PowerTags • Max. PowerTags | 6AV2103-0DA06-0AA5 6AV2103-0HA06-0AA5 6AV2103-0XA06-0AA5 6AV2103-0DA06-0AH5 6AV2103-0HA06-0AH5 6AV2103-0XA06-0AH5 | |
| SIMATIC STEP 7 / SIMATIC WinCC Trial Licenses | | |
| SIMATIC STEP 7 Basic/ Professional; SIMATIC WinCC Basic/Comfort/ Advanced V16, Trial License on DVD, 21 day trial | 6AV2102-0AA06-0AA7 | |
| SIMATIC STEP 7 Professional; SIMATIC WinCC Professional V16, Trial License on DVD, 21 day trial | 6AV2103-0AA06-0AA7 | |
| SIMATIC 50 h Engineering V16 with STEP 7 Professional Combo, WinCC Professional (incl. WinCC flexible 2008) and STEP 7 Safety Advanced (incl. Distributed Safety) | 6ES7823-1GE06-0YA5 | |

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

More information

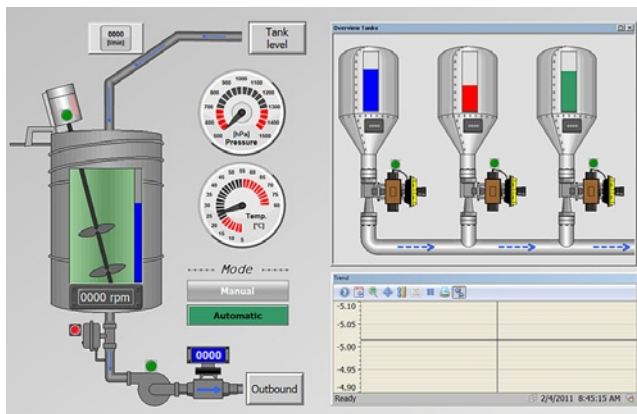
More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime**Overview****SIMATIC WinCC Runtime Professional visualization software**

- PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients. WinCC Runtime Professional is the information hub for corporation-wide vertical integration.
- Industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration, can be expanded flexibly with VB and C scripts
- Basic package expandable by means of option packages
- Also included are APIs for the Runtime to utilize the open programming interfaces

Additional information is available on the Internet at:

<http://www.siemens.com/wincc-professional>

SIMATIC WinCC Runtime Advanced visualization software

- PC-based operator control and monitoring solution for single-user systems directly at the machine
- Basic package for visualization, reporting and logging, user administration, can be expanded flexibly with VB scripts
- Basic package expandable by means of option packages
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the intranet and Internet in combination with email communication

<http://www.siemens.com/wincc-advanced>

Overview

PC-based operator control and monitoring system for single-user systems directly at the machine. SIMATIC WinCC Runtime Advanced is configured with the SIMATIC WinCC Advanced or SIMATIC WinCC Professional configuration software.

Benefits

- Functions for all visualization tasks:
 - Operator functions
 - Graphics and trend displays
 - Alarm logging
 - Report system
 - Archiving (option)
 - Recipe management (option)
 - Audit Trail (option)
- Flexible runtime functionality due to Visual Basic scripts
- Service concepts with remote operation, diagnostics and administration via intranet/Internet as well as email communication increase availability (option)
- Support for simple distributed automation solutions based on TCP/IP networks at the machine-level (option)
- Part of the Totally Integrated Automation Portal
 - Direct access to the tag and message configuration of the SIMATIC Controller
 - Excellent support of the new SIMATIC S7-1500 Controller With symbolic addressing
 - Access to the new memory-optimized data blocks
 - New alarm and diagnostics concept (incl. ProDiag)
 - Integrated diagnostic functions for increasing productivity

Application

SIMATIC WinCC Runtime Advanced is the high-performance visualization software for simple, machine-oriented visualization tasks. It can be used as a single-user solution for all automation applications in production automation, process automation and building services automation.

SIMATIC WinCC Runtime Advanced can be used in combination with the following operator panels:

- SIMATIC Rack PC:
 - IPC347, IPC547, IPC647, IPC847
- SIMATIC Box PC:
 - IPC227, IPC427, IPC627, IPC827
- SIMATIC Panel PC:
 - IPC277, IPC477, IPC677, Panel PC Ex OG
- SIMATIC S7 Open Controller: ET 200SP Open Controller
- SINUMERIK PC: PCU 50.3, PCU 50.5
- Standard PCs with resolutions (W x H in pixels) of:
 - 4:3 format: 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200
 - Widescreen format: 800 x 480, 1280 x 800, 1366 x 768, 1440 x 900, 1680 x 1050, 1920 x 1080, 1920 x 1200, 1980 x 1080

Design

SIMATIC WinCC Runtime Advanced is available as a software package with 128, 512, 2 048, 4 096, 8 192 and 16 384 PowerTags.

The term PowerTags is used to identify process tags and area pointers that have a process link to the controller. Tags without process links, constant limit values of tags, and messages (up to 4 000 bit-triggered messages) are also available for additional system performance. The range of functions of WinCC Runtime Advanced includes the centralized HMI components for visualizing and reporting, and it can be expanded to suit requirements and costs by using optional packages.

SIMATIC WinCC Runtime Advanced is configured with the SIMATIC WinCC Advanced or SIMATIC WinCC Professional configuration software.

Function

Visualization via Windows-compliant user interface

Made up of parameterizable screen objects and faceplates created on a project-specific basis:

- Numeric and alphanumeric input/output fields
- Static text and graphic display plus vector graphics
- Dynamizable graphics from HMI symbol library
- Bar graph, trend curve graph with scroll and zoom function as well as read line
- Signal-specific text and graphic lists
- Buttons and switches for operator-process communication
- Editing fields for process values (signals)
- Analog display, slider as example for further screen objects
- Project-specific faceplates created from basic objects of the system
- Graphic displays for various standard graphic formats, e.g. bitmaps, .jpg, .wmf

Alarms and messages

- Discrete alarms and analog alarms as well as event-driven Alarm-S/Alarm-D message procedure with SIMATIC S7
- The new ProDiag alarm and diagnostics concept of the S7-1500 Controller is also supported
- Freely-definable message classes for definition of acknowledgment response and display of alarm events

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Advanced**Function****Logging of alarms and process values¹⁾**

- Logging in files (e.g. CSV or TXT file) and Microsoft SQL databases
- Online evaluation of process value and alarm logs
- Evaluation of process value and alarm logs using standard Microsoft tools such as Excel

Recipes¹⁾

- Generation of data records for machine data or production data
- Display or entry of data records via a configurable screen object or via process screens distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records from/to CSV files for further processing with other tools (e.g. MS Excel)

Documentation of process data, alarm events, and recipes

- Time or event-driven report output
- User-definable layout

Flexible expansion of integrated system function using Visual Basic script**Language support for multilingual projects**

- Up to 32 online languages
- Language-dependent texts and graphics
- Language selection during runtime

User-oriented access protection according to requirements of regulated sectors

- Authentication with user ID and password
- User group-specific rights
- Central system-wide user administration based on SIMATIC Logon¹⁾
- Monitoring of changes by operators in runtime operation¹⁾
- Recording of operator actions in an Audit Trail¹⁾

Onboard PLC connection to many different PLCs

- Communication via native drivers and standard OPC channel
- Simultaneous connection using several protocols: OPC Client and SIMATIC HMI HTTP protocol are additive, i.e. they can be used in conjunction with other PLC connections

Open communication between HMI systems and with higher-level systems

- OPC Servers
 - Use of the visualization system as a data server (OPC Server) for higher-level automation components, e.g. control systems or systems in the office area
 - OPC DA Server: tags, e.g. process values
- Communication between HMI systems is established on the basis of Ethernet networks, or via the intranet/Internet
 - Read and write access to tags. The WinCC Runtime Advanced or SIMATIC Panels provide other SIMATIC HMI systems or office applications with data (tags)
- Sending of emails on demand or event-driven
 - e.g. to maintenance personnel via SMTP server (Simple Mail Transfer Protocol)
 - The optional use of email/SMS gateways enables access to standard networks (external service provider required)
- System diagnostics via device-specific HTML pages. The following functions are available:
 - Starting and stopping the HMI runtime for maintenance
 - Remote access to recipe data records, passwords and information specific to the HMI system
 - Access to the HMI system files via a file explorer
 - Download of configuration data via the intranet/Internet
 - Supplement with own HTML pages

WinCC Sm@rtServer for the remote control via the intranet and Internet¹⁾

- Display and control of process screens on remote PC or Panel
- A SIMATIC HMI system can be used to control or monitor another system remotely; entry level for client/server configurations for distributed operator stations or for solutions with head-end stations or control rooms

¹⁾ Option for SIMATIC WinCC Runtime Advanced; runtime licenses must be purchased separately. More information is available under "WinCC options".

Function

System requirements

| SIMATIC WinCC Runtime Advanced | |
|--|--|
| Processor type (min.) ¹⁾ | 64-bit operating system: at least Intel® Celeron™ 2.2 GHz or comparable |
| RAM (min.) ²⁾ | 4 GB or more |
| Hard disk | 8 GB disk space available |
| Operating systems | 64-bit operating systems: <ul style="list-style-type: none"> • Windows 10 Professional Version 1909 • Windows 10 Professional Version 2004 • Windows 10 Enterprise Version 1909 • Windows 10 Enterprise Version 2004 • Windows 10 Enterprise 2016 LTSB / LTSC • Windows 10 Enterprise 2019 LTSB / LTSC • Windows Server 2016 Standard Edition • Windows Server 2019 Standard Edition |
| Optical drive | DVD-ROM |

¹⁾ In combination with options, more powerful systems may be required

²⁾ The required RAM is determined primarily by the size of the graphics used.

Note:

In addition to WinCC, Windows also requires space on the hard disk; e.g. free storage space should be available for the swap file. The following formula has proven itself in the past:
Size of swap file = 3 x size of RAM.

For more information, refer to your Windows documentation.

Ordering data

Article No.

SIMATIC WinCC Runtime Advanced V17

Basic software

Data storage medium

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 16 384 PowerTags

As download¹⁾

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 16 384 PowerTags

6AV2104-0BA07-0AA0
6AV2104-0DA07-0AA0
6AV2104-0FA07-0AA0
6AV2104-0HA07-0AA0
6AV2104-0KA07-0AA0
6AV2104-0LA07-0AA0

PowerPacks (version-independent)

Data storage medium

- 128 PowerTags to 512 PowerTags
- 512 PowerTags to 2 048 PowerTags
- 2 048 PowerTags to 4 096 PowerTags
- 4 096 PowerTags to 8 192 PowerTags
- 8 192 PowerTags to 16 384 PowerTags

As download¹⁾

Email address required for delivery

- 128 PowerTags to 512 PowerTags
- 512 PowerTags to 2 048 PowerTags
- 2 048 PowerTags to 4 096 PowerTags
- 4 096 PowerTags to 8 192 PowerTags
- 8 192 PowerTags to 16 384 PowerTags

6AV2104-2BD00-0BD0
6AV2104-2DF00-0BD0
6AV2104-2FH00-0BD0
6AV2104-2HK00-0BD0
6AV2104-2KL00-0BD0

6AV2104-2BD00-0BJ0
6AV2104-2DF00-0BJ0
6AV2104-2FH00-0BJ0
6AV2104-2HK00-0BJ0
6AV2104-2KL00-0BJ0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Advanced**Ordering data****Article No.****Article No.****Upgrades****SIMATIC WinCC Runtime Advanced V11..16 to V17**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

As download¹⁾

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

SIMATIC WinCC flexible 2008 to SIMATIC WinCC Runtime Advanced V17

- 128 PowerTags to 128 PowerTags
- 512 PowerTags to 512 PowerTags
- 2 048 PowerTags to 2 048 PowerTags
- 4 096 PowerTags to 4 096 PowerTags
- 8 000 PowerTags to 8 192 PowerTags

As download¹⁾

Email address required for delivery

- 128 PowerTags to 128 PowerTags
- 512 PowerTags to 512 PowerTags
- 2 048 PowerTags to 2 048 PowerTags
- 4 096 PowerTags to 4 096 PowerTags
- 8 000 PowerTags to 8 192 PowerTags

Options for WinCC (TIA Portal)**Upgrade for WinCC flexible Panel Options (Sm@rtAccess/Sm@rtService/Audit)**

Runtime software, single license; without software; without documentation; Class A

- License key on USB flash drive
- License key download; email address required for delivery

6AV2104-3BB07-0AE0
6AV2104-3DD07-0AE0
6AV2104-3FF07-0AE0
6AV2104-3HH07-0AE0
6AV2104-3KK07-0AE0

6AV2104-3BB07-0AK0
6AV2104-3DD07-0AK0
6AV2104-3FF07-0AK0
6AV2104-3HH07-0AK0
6AV2104-3KK07-0AK0

6AV2104-4BB07-0AE0
6AV2104-4DD07-0AE0
6AV2104-4FF07-0AE0
6AV2104-4HH07-0AE0
6AV2104-4KK07-0AE0

6AV2104-4BB07-0AK0
6AV2104-4DD07-0AK0
6AV2104-4FF07-0AK0
6AV2104-4HH07-0AK0
6AV2104-4KK07-0AK0

6AV2107-4XP00-0BFO
6AV2107-4XP00-0BKO

SIMATIC WinCC Runtime Advanced V16**Basic software**Data storage medium

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 16 384 PowerTags

As download¹⁾

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 16 384 PowerTags

Upgrades**SIMATIC WinCC Runtime Advanced V11..15.1 to V16**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

As download¹⁾

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

SIMATIC WinCC flexible 2008 to SIMATIC WinCC Runtime Advanced V16

- 128 PowerTags to 128 PowerTags²⁾
- 512 PowerTags to 512 PowerTags²⁾
- 2 048 PowerTags to 2 048 PowerTags²⁾
- 4 096 PowerTags to 4 096 PowerTags²⁾
- 8 000 PowerTags to 8 192 PowerTags²⁾

As download¹⁾

Email address required for delivery

- 128 PowerTags to 128 PowerTags²⁾
- 512 PowerTags to 512 PowerTags²⁾
- 2 048 PowerTags to 2 048 PowerTags²⁾
- 4 096 PowerTags to 4 096 PowerTags²⁾
- 8 000 PowerTags to 8 192 PowerTags²⁾

6AV2104-0BA06-0AA0
6AV2104-0DA06-0AA0
6AV2104-0FA06-0AA0
6AV2104-0HA06-0AA0
6AV2104-0KA06-0AA0
6AV2104-0LA06-0AA0

6AV2104-0BA06-0AH0
6AV2104-0DA06-0AH0
6AV2104-0FA06-0AH0
6AV2104-0HA06-0AH0
6AV2104-0KA06-0AH0
6AV2104-0LA06-0AH0

6AV2104-3BB06-0AE0
6AV2104-3DD06-0AE0
6AV2104-3FF06-0AE0
6AV2104-3HH06-0AE0
6AV2104-3KK06-0AE0

6AV2104-3BB06-0AK0
6AV2104-3DD06-0AK0
6AV2104-3FF06-0AK0
6AV2104-3HH06-0AK0
6AV2104-3KK06-0AK0

6AV2104-4BB06-0AE0
6AV2104-4DD06-0AE0
6AV2104-4FF06-0AE0
6AV2104-4HH06-0AE0
6AV2104-4KK06-0AE0

6AV2104-4BB06-0AK0
6AV2104-4DD06-0AK0
6AV2104-4FF06-0AK0
6AV2104-4HH06-0AK0
6AV2104-4KK06-0AK0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

²⁾ Each including 1 upgrade license to the WinCC Runtime Advanced options

Technical specifications

The following tables of system limitations provide assistance in estimating whether a specific project is still within the system limitations for WinCC Runtime Advanced.

The stated maximum values are not additive. We cannot guarantee proper functioning of configurations that make full use of all system limits on the HMI devices. In addition to the limitations specified, allowances must be made for restrictions in configuration memory resources.

| SIMATIC WinCC Runtime Advanced | |
|--|------------|
| Tags | |
| Number of tags in the project | 24 576 |
| Number of PowerTags | 128–16 384 |
| Number of elements per array | 1 600 |
| Number of local tags | 8 192 |
| Alarms | |
| Number of alarm classes | 32 |
| Number of discrete alarms | 6 000 |
| Number of analog alarms | 500 |
| Length of an alarm in characters | 80 |
| Number of process values per alarm | 8 |
| Size of the alarm buffer | 2 048 |
| Number of queued alarm events | 500 |
| Screens | |
| Number of screens | 750 |
| Number of fields per screen | 600 |
| Number of tags per screen | 400 |
| Number of complex objects per screen ¹⁾ | 40 |
| Recipes | |
| Number of recipes | 1 000 |
| Number of elements per recipe ²⁾ | 2 000 |
| User data length in KB per data record | 512 |
| Number of data records per recipe | 5 000 |
| Logs | |
| Number of logs | 100 |
| Number of entries per log (including all log segments) ³⁾ | 500 000 |
| Number of log segments | 400 |
| Cyclical trigger for tag logging | 1 s |
| Number of tags that can be logged per log | 24 576 |

| SIMATIC WinCC Runtime Advanced | |
|---|-----------------|
| Trends | |
| Number of trends | 800 |
| Text lists and graphics lists | |
| Number of graphic lists | 500 |
| Number of text lists | 500 |
| Number of entries per text or graphic list | 3 500 |
| Number of graphic objects | 24 576 |
| Number of text elements | 40 000 |
| Scripts | |
| Number of scripts | 200 |
| Communication | |
| Number of connections | 8 |
| Number of connections based on "SIMATIC HMI HTTP" | 16 |
| Maximum number of connected Sm@rtClients (including a service client) | 4 ⁴⁾ |
| Help system | |
| Number of characters in a help text | 500 |
| Languages | |
| Number of runtime languages | 32 |
| Scheduler | |
| Time-triggered tasks ⁵⁾ | 48 |
| User administration | |
| Number of user groups | 50 |
| Number of user rights | 32 |
| Number of users | 100 |

- 1) Complex objects are: Bars, sliders, symbol library, clock, and all objects from the Controls area.
- 2) When using arrays, each array element represents a recipe element
- 3) For the "segmented circular log" logging method, the number of entries for all sequence logs is valid. The product derived from the number of circular logs times the number of data records in this log may not be exceeded.
- 4) Up to three Sm@rtClients can interconnect with the Sm@rtServer on Panel PC 477.
- 5) Event-triggered tasks are not relevant for the system limits.

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-advanced>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional

Overview

PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients.

SIMATIC WinCC Runtime Professional is the information hub for corporation-wide vertical integration. SIMATIC WinCC Runtime Professional is configured with the SIMATIC WinCC Professional configuration software.

Benefits

- Functions for all visualization tasks:
 - Operator functions
 - Graphics and trend displays
 - Alarm logging
 - Report system
 - Archiving (option)
 - Recipe management (option)
- Universally scalable
 - Expandable from single station to client-server configurations
 - Process visualization via the web with the WinCC WebNavigator
- Open standards for easy integration
 - Efficient real-time database MS SQL Server
 - Open for application modules with ActiveX controls
 - Visual Basic for Applications for individual expansions
 - OPC for cross-vendor communication
- Part of the Totally Integrated Automation Portal
 - Direct access to the tag and message configuration of the SIMATIC controller
 - Excellent support of the new SIMATIC S7-1500 Controller
 - With symbolic addressing
 - Access to the new memory-optimized data blocks
 - New ProDiag alarm and diagnostics concept
 - Integrated diagnostic functions for increasing productivity

Application

SIMATIC WinCC Runtime Professional is designed for visualization and operator control of processes, production flows, machines and plants. With its powerful process interface, especially to the SIMATIC family, and the secure data logging, WinCC Runtime Professional enables solutions for the process control.

The sector-neutral basic system enables universal usage in all automation applications.

SIMATIC WinCC Runtime Professional can be used in combination with the following operator panels:

SIMATIC PCs:

- SIMATIC Rack PC: IPC547, IPC647, IPC847
- SIMATIC Box PC: IPC427, IPC627, IPC827
- SIMATIC Panel PC: IPC477, IPC677
- Standard PC

Design

SIMATIC WinCC Runtime Professional is available as a software package with 128, 512, 2 048, 4 096, 8 192, 65 536, 102 400, 153 600 and 262 144 PowerTags.

PowerTags are data points that are connected to controllers or other data sources via a WinCC Runtime Professional channel. Up to 32 alarms can be obtained from one data point. Moreover, internal tags without coupling are available for additional system performance. WinCC Runtime Professional also contains 500 archive tags. Additional archive licenses can be obtained for greater quantity structures.

Licenses for a multi-user configuration

The system software with the required number of PowerTags and additionally the SIMATIC WinCC Server for Runtime Professional option must be installed on the server. For the clients in the basic configuration, a SIMATIC WinCC Client for Runtime Professional license is sufficient.

Function

Visualization via Windows-compliant user interface

Made up of parameterizable screen objects and faceplates created on a project-specific basis:

- Numeric and alphanumeric input/output fields
- Static text and graphic display plus vector graphics
- Dynamizable graphics from HMI symbol library
- Bar graph, trend curve graph with scroll and zoom function as well as read line
- Signal-specific text and graphic lists
- Buttons and switches for operator-process communication
- Editing fields for process values (signals)
- Analog display, slider as example for further screen objects
- Project-specific faceplates created from basic objects of the system
- Graphic displays for various standard graphic formats, e.g. bitmaps, .jpg, .wmf, .svg

Alarms and messages

- Discrete alarms and analog alarms, as well as event-driven Alarm-S/Alarm-D message procedure with SIMATIC S7
- The new ProDiag alarm and diagnostics concept of the S7-1500 Controller is also supported
- Freely-definable message classes for definition of acknowledgment response and display of alarm events

Logging of messages and process values ¹⁾

- Signaling system for detecting and archiving events with display and control options according to DIN 19235
- Process logging for the acquisition, compression and storage of measured values
- Online evaluation of process value and alarm logs

Recipes ¹⁾

- Generation of data records for machine data or production data
- Display or entry of data records via a configurable screen object or via process screens distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records for further processing with other tools (e.g. MS Excel)

Documentation of process data, alarm events, and recipes

- Time or event-driven report output
- User-definable layout

Flexible expansion by means of Visual Basic Script and ANSI-C

- Programming interfaces for individual access to data and functions of WinCC Runtime Professional and for the integration in user programs with VBA, VB Script, C-API, C-Script (ANSI-C)

Open communication between HMI systems and with higher-level systems

- OPC Server/Client
Use of the visualization system as a data server (OPC Server) for higher-level automation components such as control systems or systems in the office area
 - OPC DA Server: tags, e.g. process values
 - OPC HDA Server: logged process values
 - OPC A&E Server: Alarms
 - OPC XML DA Server: tags, e.g. process values
 - OPC UA DA Server: tags, e.g. process values
 - OPC UA DA Client: Tags, e.g. process values
- OLE DB Server
 - Standardized and user-friendly access to WinCC log data (MS SQL Server 2005).
 - Access via the OLE DB provider supplies all WinCC log data available along with the accompanying process values, as well as alarm and user texts.
 - The WinCC OLE DB provider also supports analysis functions such as minimum, maximum, alarm hit list, etc.
- WinCC WebUX for Runtime Professional ¹⁾
 - The WebUX option enables platform and browser-independent operator control and monitoring via the Internet or the in-house intranet or LAN.
 - Installation on the terminal is not necessary – an HTML5-compatible browser is sufficient. WebUX can then also be used on mobile terminals.
- WinCC WebNavigator for Runtime Professional¹⁾
 - Option for SIMATIC WinCC Runtime Professional for operator control and monitoring of plants over the Internet, company Intranet or LAN.
 - Configuration from a web server with the SIMATIC WinCC Runtime Professional software as a single-user, client or server version and a web client that enables operator control and monitoring of a current WinCC Runtime Professional project via an Internet browser with ActiveX support. The WinCC basic system does not have to be installed on the client computer.
- WinCC DataMonitor for Runtime Professional ¹⁾
 - The WinCC DataMonitor is used for display and evaluation of current process states and historical data on office PCs using standard tools such as Microsoft Internet Explorer or Microsoft Excel. The DataMonitor Client is supported by a web server with current and historical process data and alarms. All staff ranging from machine operators to corporate managers can use the DataMonitor to obtain information.

¹⁾ Option for SIMATIC WinCC Runtime Professional; runtime licenses must be purchased separately. More information is available under "WinCC options".

Language support for multilingual projects

- Language-dependent texts and graphics
- Language selection during runtime

Onboard PLC connection to many different PLCs

- Communication via native drivers and standard OPC channel
- For communication with subordinate PLCs (SIMATIC protocols, PROFIBUS DP, PROFIBUS FMS, DDE and OPC Server included in the scope of supply)

Note:

For communication, the supplied SIMATIC Net V17 must be installed.
Before installing SIMATIC WinCC RT Professional, please always ensure compatibility with the add-on packages and options you require and use.

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional**Function**

| System requirements | SIMATIC WinCC Runtime Professional |
|---|--|
| Processor type (min.)¹⁾ | <ul style="list-style-type: none"> Intel Celeron Dual Core 2.2 GHz (Ivy/Sandy Bridge) |
| RAM (min.)²⁾ | 4 GB |
| Free hard disk space³⁾ | 8 GB on system drive "C:." |
| Operating systems | 32-bit operating system: for WinCC Client, WebNavigator Client, DataMonitor, WebUX <ul style="list-style-type: none"> Windows 7 SP1 (Professional, Enterprise, Ultimate) Windows Embedded Standard Edition 7 SP1 64-bit operating systems: <ul style="list-style-type: none"> Windows 10 Professional 1909, 2004 Windows 10 Enterprise 1909, 2004 Windows 10 Enterprise 2016 LTSC / LTSC Windows 10 Enterprise 2019 LTSC / LTSC Windows Server 2016 Standard (full installation) Windows Server 2019 Standard (full installation) |
| Graphics card | 32 MB RAM, 24-bit color depth |
| Network | Ethernet 10 Mbps or higher |
| Optical drive | DVD-ROM |

¹⁾ In combination with options, more powerful systems may be required

²⁾ The required RAM is determined primarily by the size of the graphics used.

³⁾ Without taking archives into account.

Note:

In addition to WinCC, Windows also requires space on the hard disk; e.g. free storage space should be available for the swap file.

The following formula has proven itself in the past: Size of swap file = 3 x size of RAM.

For more information, refer to your Windows documentation.

Integration**Integration in company-wide solutions (IT and business integration)**

WinCC Runtime Professional is strictly based on Microsoft technology, which provides for the greatest possible compatibility and integration ability.

Cross-manufacturer communication is also a simply exercise. The reason: WinCC Runtime Professional can be used as an OPC client and server, and in addition to access to current process values, it also supports standards such as OPC HDA (Historical Data Access), OPC Alarm & Events, OPC UA Data Access and OPC XML Data Access.

Just as important: Visual Basic Scripting (VBS) as an easy-to-learn, open Runtime language. If desired, professional application developers can also use ANSI-C.

WinCC Runtime Professional integrates a powerful and scalable Historian function based on the Microsoft SQL Server in the basic system.

Thus the user is given all possibilities: from high-performance archiving of current process data, to long-term archiving with high data compression, through to a central information hub in the form of a company-wide Process Historian. Open interfaces form the basis for an effective IT and business integration.

Ordering data**Article No.****SIMATIC WinCC Runtime Professional V17****Basic software**

- 128 PowerTags
 - 512 PowerTags
 - 2 048 PowerTags
 - 4 096 PowerTags
 - 8 192 PowerTags
 - 65 536 PowerTags
 - 102 400 PowerTags
 - 153 600 PowerTags
 - 262 144 PowerTags
 - Client for Runtime Professional
- Incl. 500 archive tags each

As download¹⁾

Email address required for delivery.

- 128 PowerTags
 - 512 PowerTags
 - 2 048 PowerTags
 - 4 096 PowerTags
 - 8 192 PowerTags
 - 65 536 PowerTags
 - 102 400 PowerTags
 - 153 600 PowerTags
 - 262 144 PowerTags
 - Client for Runtime Professional
- Incl. 500 archive tags each

SIMATIC WinCC Runtime Professional ASIA V17

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags
- 102 400 PowerTags
- 153 600 PowerTags
- 262 144 PowerTags

Incl. 500 archive tags each

6AV2105-0BA07-0AA0
6AV2105-0DA07-0AA0
6AV2105-0FA07-0AA0
6AV2105-0HA07-0AA0
6AV2105-0KA07-0AA0
6AV2105-0MA07-0AA0
6AV2105-0PA07-0AA0
6AV2105-0RA07-0AA0
6AV2105-0TA07-0AA0
6AV2107-0DB07-0AA0

6AV2105-0BA07-0AH0
6AV2105-0DA07-0AH0
6AV2105-0FA07-0AH0
6AV2105-0HA07-0AH0
6AV2105-0KA07-0AH0
6AV2105-0MA07-0AH0
6AV2105-0PA07-0AH0
6AV2105-0RA07-0AH0
6AV2105-0TA07-0AH0
6AV2107-0DB07-0AH0

6AV2105-0BA17-0AA0
6AV2105-0DA17-0AA0
6AV2105-0FA17-0AA0
6AV2105-0HA17-0AA0
6AV2105-0KA17-0AA0
6AV2105-0MA17-0AA0
6AV2105-0PA17-0AA0
6AV2105-0RA17-0AA0
6AV2105-0TA17-0AA0

| Ordering data | Article No. | Article No. |
|---|--|---|
| <p>PowerPacks (version-independent)</p> <p>SIMATIC WinCC Runtime Professional and SIMATIC WinCC Runtime Professional ASIA</p> <ul style="list-style-type: none"> • 128 to 512 PowerTags • 512 to 2 048 PowerTags • 2 048 to 4 096 PowerTags • 4 096 to 8 192 PowerTags • 8 192 to 65 536 PowerTags • 65 536 to 102 400 PowerTags • 102 400 to 153 600 PowerTags • 153 600 to 262 144 PowerTags <p>As download¹⁾ Email address required for delivery.</p> <ul style="list-style-type: none"> • 128 to 512 PowerTags • 512 to 2 048 PowerTags • 2 048 to 4 096 PowerTags • 4 096 to 8 192 PowerTags • 8 192 to 65 536 PowerTags • 65 536 to 102 400 PowerTags • 102 400 to 153 600 PowerTags • 153 600 to 262 144 PowerTags | <p>6AV2105-2BD00-0BD0</p> <p>6AV2105-2DF00-0BD0</p> <p>6AV2105-2FH00-0BD0</p> <p>6AV2105-2HK00-0BD0</p> <p>6AV2105-2KM00-0BD0</p> <p>6AV2105-2MP00-0BD0</p> <p>6AV2105-2PR00-0BD0</p> <p>6AV2105-2RT00-0BD0</p> <p>6AV2105-2BD00-0BJ0</p> <p>6AV2105-2DF00-0BJ0</p> <p>6AV2105-2FH00-0BJ0</p> <p>6AV2105-2HK00-0BJ0</p> <p>6AV2105-2KM00-0BJ0</p> <p>6AV2105-2MP00-0BJ0</p> <p>6AV2105-2PR00-0BJ0</p> <p>6AV2105-2RT00-0BJ0</p> | <p>Upgrades</p> <p>WinCC V7.3 .. V7.5 to SIMATIC WinCC RT Professional V17</p> <ul style="list-style-type: none"> • SIMATIC WinCC Runtime Professional 128 PowerTags • SIMATIC WinCC Runtime Professional 512 PowerTags • SIMATIC WinCC Runtime Professional 2 048 PowerTags • SIMATIC WinCC Runtime Professional 8 192 PowerTags • SIMATIC WinCC Runtime Professional 64k to 256k PowerTags • Client for Runtime Professional As download¹⁾ <p>Email address required for delivery.</p> <ul style="list-style-type: none"> • SIMATIC WinCC Runtime Professional 128 PowerTags • SIMATIC WinCC Runtime Professional 512 PowerTags • SIMATIC WinCC Runtime Professional 2 048 PowerTags • SIMATIC WinCC Runtime Professional 8 192 PowerTags • SIMATIC WinCC Runtime Professional 64k to 256k PowerTags • Client for Runtime Professional |
| <p>Upgrades V11..16 to WinCC V17</p> <p>SIMATIC WinCC Runtime Professional and SIMATIC WinCC Runtime Professional ASIA</p> <ul style="list-style-type: none"> • SIMATIC WinCC Runtime Professional 128 PowerTags • SIMATIC WinCC Runtime Professional 512 PowerTags • SIMATIC WinCC Runtime Professional 2 048 PowerTags • SIMATIC WinCC Runtime Professional 4 096 PowerTags • SIMATIC WinCC Runtime Professional 8 192 PowerTags • SIMATIC WinCC Runtime Professional 64k to 256k PowerTags • Client for Runtime Professional As download¹⁾ <p>Email address required for delivery.</p> <ul style="list-style-type: none"> • SIMATIC WinCC Runtime Professional 128 PowerTags • SIMATIC WinCC Runtime Professional 512 PowerTags • SIMATIC WinCC Runtime Professional 2 048 PowerTags • SIMATIC WinCC Runtime Professional 4 096 PowerTags • SIMATIC WinCC Runtime Professional 8 192 PowerTags • SIMATIC WinCC Runtime Professional 64k to 256k PowerTags • Client for Runtime Professional | <p>6AV2105-3BB07-0AE0</p> <p>6AV2105-3DD07-0AE0</p> <p>6AV2105-3FF07-0AE0</p> <p>6AV2105-3HH07-0AE0</p> <p>6AV2105-3KK07-0AE0</p> <p>6AV2105-3MM07-0AE0</p> <p>6AV2107-3DB07-0AE0</p> <p>6AV2105-3BB07-0AK0</p> <p>6AV2105-3DD07-0AK0</p> <p>6AV2105-3FF07-0AK0</p> <p>6AV2105-3HH07-0AK0</p> <p>6AV2105-3KK07-0AK0</p> <p>6AV2105-3MM07-0AK0</p> <p>6AV2107-3DB07-0AK0</p> | <p>6AV2105-4BB07-0AE0</p> <p>6AV2105-4DD07-0AE0</p> <p>6AV2105-4FF07-0AE0</p> <p>6AV2105-4KK07-0AE0</p> <p>6AV2105-4MM07-0AE0</p> <p>6AV2107-4DB07-0AE0</p> <p>6AV2105-4BB07-0AK0</p> <p>6AV2105-4DD07-0AK0</p> <p>6AV2105-4FF07-0AK0</p> <p>6AV2105-4KK07-0AK0</p> <p>6AV2105-4MM07-0AK0</p> <p>6AV2107-4DB07-0AK0</p> |

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional**Ordering data****Article No.****Article No.****SIMATIC WinCC Runtime Professional V16****Basic software**

- 128 PowerTags
 - 512 PowerTags
 - 2 048 PowerTags
 - 4 096 PowerTags
 - 8 192 PowerTags
 - 65 536 PowerTags
 - 102 400 PowerTags
 - 153 600 PowerTags
 - 262 144 PowerTags
 - Client for Runtime Professional
- Incl. 500 archive tags each

As download¹⁾

Email address required for delivery.

- 128 PowerTags
 - 512 PowerTags
 - 2 048 PowerTags
 - 4 096 PowerTags
 - 8 192 PowerTags
 - 65 536 PowerTags
 - 102 400 PowerTags
 - 153 600 PowerTags
 - 262 144 PowerTags
 - Client for Runtime Professional
- Incl. 500 archive tags each

SIMATIC WinCC Runtime Professional ASIA V16

- 128 PowerTags
 - 512 PowerTags
 - 2 048 PowerTags
 - 4 096 PowerTags
 - 8 192 PowerTags
 - 65 536 PowerTags
 - 102 400 PowerTags
 - 153 600 PowerTags
 - 262 144 PowerTags
- Incl. 500 archive tags each

6AV2105-0BA06-0AA0
 6AV2105-0DA06-0AA0
 6AV2105-0FA06-0AA0
 6AV2105-0HA06-0AA0
 6AV2105-0KA06-0AA0
 6AV2105-0MA06-0AA0
 6AV2105-0PA06-0AA0
 6AV2105-0RA06-0AA0
 6AV2105-0TA06-0AA0
 6AV2107-0DB06-0AA0

6AV2105-0BA06-0AH0
 6AV2105-0DA06-0AH0
 6AV2105-0FA06-0AH0
 6AV2105-0HA06-0AH0
 6AV2105-0KA06-0AH0
 6AV2105-0MA06-0AH0
 6AV2105-0PA06-0AH0
 6AV2105-0RA06-0AH0
 6AV2105-0TA06-0AH0
 6AV2107-0DB06-0AH0

6AV2105-0BA16-0AA0
 6AV2105-0DA16-0AA0
 6AV2105-0FA16-0AA0
 6AV2105-0HA16-0AA0
 6AV2105-0KA16-0AA0
 6AV2105-0MA16-0AA0
 6AV2105-0PA16-0AA0
 6AV2105-0RA16-0AA0
 6AV2105-0TA16-0AA0

Upgrades V11..15.1 to WinCC V16**SIMATIC WinCC Runtime Professional V11..15.1 and SIMATIC WinCC Runtime Professional ASIA V11..V15.1 to V16**

- SIMATIC WinCC Runtime Professional 128 PowerTags
 - SIMATIC WinCC Runtime Professional 512 PowerTags
 - SIMATIC WinCC Runtime Professional 2 048 PowerTags
 - SIMATIC WinCC Runtime Professional 4 096 PowerTags
 - SIMATIC WinCC Runtime Professional 8 192 PowerTags
 - SIMATIC WinCC Runtime Professional 64k to 256k PowerTags
 - Client for Runtime Professional
- As download¹⁾
- Email address required for delivery.
- SIMATIC WinCC Runtime Professional 128 PowerTags
 - SIMATIC WinCC Runtime Professional 512 PowerTags
 - SIMATIC WinCC Runtime Professional 2 048 PowerTags
 - SIMATIC WinCC Runtime Professional 4 096 PowerTags
 - SIMATIC WinCC Runtime Professional 8 192 PowerTags
 - SIMATIC WinCC Runtime Professional 64k to 256k PowerTags
 - Client for Runtime Professional

6AV2105-3BB06-0AE0

6AV2105-3DD06-0AE0

6AV2105-3FF06-0AE0

6AV2105-3HH06-0AE0

6AV2105-3KK06-0AE0

6AV2105-3MM06-0AE0

6AV2107-3DB06-0AE0

6AV2105-3BB06-0AK0

6AV2105-3DD06-0AK0

6AV2105-3FF06-0AK0

6AV2105-3HH06-0AK0

6AV2105-3KK06-0AK0

6AV2105-3MM06-0AK0

6AV2107-3DB06-0AK0

| Ordering data | Article No. | Article No. |
|--|---|--|
| <p>Upgrades</p> <p>to SIMATIC WinCC RT Professional V16</p> <ul style="list-style-type: none"> • SIMATIC WinCC Runtime Professional 128 PowerTags • SIMATIC WinCC Runtime Professional 512 PowerTags • SIMATIC WinCC Runtime Professional 2 048 PowerTags • SIMATIC WinCC Runtime Professional 8 192 PowerTags • SIMATIC WinCC Runtime Professional 64k to 256k PowerTags • Client for Runtime Professional As download¹⁾ Email address required for delivery. • SIMATIC WinCC Runtime Professional 128 PowerTags • SIMATIC WinCC Runtime Professional 512 PowerTags • SIMATIC WinCC Runtime Professional 2 048 PowerTags • SIMATIC WinCC Runtime Professional 8 192 PowerTags • SIMATIC WinCC Runtime Professional 64k to 256k PowerTags • Client for Runtime Professional | <p>6AV2105-4BB06-0AE0</p> <p>6AV2105-4DD06-0AE0</p> <p>6AV2105-4FF06-0AE0</p> <p>6AV2105-4KK06-0AE0</p> <p>6AV2105-4MM06-0AE0</p> <p>6AV2107-4DB06-0AE0</p> <p>6AV2105-4BB06-0AK0</p> <p>6AV2105-4DD06-0AK0</p> <p>6AV2105-4FF06-0AK0</p> <p>6AV2105-4KK06-0AK0</p> <p>6AV2105-4MM06-0AK0</p> <p>6AV2107-4DB06-0AK0</p> | <p>Software Update Service (SUS)</p> <p>SIMATIC WinCC RT Professional Software Update Service (SUS); Under this contract, you receive all current software versions for a period of one year. The contract is automatically extended for one more year unless it is canceled three months before expiration. Delivery and service period: 1 year from date of invoice Condition for contract: current software version</p> <ul style="list-style-type: none"> • standard • as download; email address required for delivery <p>SIMATIC WinCC RT Professional Client Software Update Service (SUS); Under this contract, you receive all current software versions for a period of one year. The contract is automatically extended for one more year unless it is canceled three months before expiration. Delivery and service period: 1 year from date of invoice Condition for contract: current client version</p> <ul style="list-style-type: none"> • standard • as download; email address required for delivery <p>6AV2105-0XA00-0AL0 6AV2105-0XA00-0AY0</p> <p>6AV2107-0DB00-0AL0 6AV2107-0DB00-0AY0</p> |

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional**Technical specifications**

The following tables of system limits provide assistance in estimating whether a specific project is still within the system limitations for WinCC Runtime Professional. The stated maximum values are not additive.

We cannot guarantee proper functioning of configurations that make full use of all system limits on the HMI devices. In addition to the limitations specified, allowances must be made for restrictions in configuration memory resources.

| | SIMATIC WinCC Runtime Professional |
|---|---|
| Alarms | |
| Configurable alarms per server/single user | 150,000 |
| PowerTags per alarm line | 10 |
| User text blocks per alarm line | 10 |
| Message classes | 256 |
| Alarm types | 16 |
| Alarm priorities | 17 (0...16) |
| Alarms in Runtime | |
| Alarms per alarm log | Unlimited ¹⁾ |
| Alarms per short-term log list | 1,000 |
| Alarms per long-term log list | 1,000 ²⁾ |
| Alarms per alarm display | 5,000 ³⁾ |
| Screens | |
| Objects per screen ⁴⁾ | Unlimited ⁵⁾ |
| Levels per screen | 32 |
| Screens per project | Unlimited ⁵⁾ |
| Instances of fixed faceplates in a process screen | 31 instances of the same picture type |
| Screen size in pixels | 10 000 x 10 000 |
| Nesting levels of screen objects | 20 |
| Recipes | |
| Number of recipes | Unlimited ⁵⁾ |
| Number of recipe elements | 500 ⁶⁾ |
| Number of recipe data records | 10,000 ⁶⁾ |
| Number of views | Unlimited ⁵⁾ |

| | SIMATIC WinCC Runtime Professional |
|---|---|
| Logs | |
| Trend views per screen | 25 |
| Trends per trend view | 80 |
| Tables per screen | 25 |
| Columns per table | 12 |
| Values per table | 30,000 |
| Logs per single-user station/server | 100 |
| Log tags per single-user station/server ⁷⁾ | 80,000 |
| Trends | |
| Trend views per image | 25 |
| Trends per trend view | 80 |
| User administration | |
| Number of user groups | 128 |
| Number of user rights | 999 |
| Number of users | 128 |
| Configurations – Quantity structure in a multi-user system | |
| WinCC Clients in a system | 32 ⁸⁾ ⁹⁾ |
| Web clients in a system | 150 ¹⁰⁾ |

¹⁾ Limited by system resources.

²⁾ On single-user station or server or on client per server if "LongTimeArchiveConsistency" is set to "No". On single-user station, server, or client if "LongTimeArchiveConsistency" is set to "Yes".

³⁾ On single-user station or server or on client per server.

⁴⁾ The number and complexity of the objects affect the performance.

⁵⁾ Limited by system resources.

⁶⁾ The sum of the number of recipe elements and number of data records must not exceed a value of 1,000,000

⁷⁾ Dependent on the Logging PowerPack used for the log tags. 500 log tags are contained in the basis version.

⁸⁾ If the server is also used as an operator station, the number of clients for this server is reduced to four.

⁹⁾ Mixed configuration: 32 clients + 3 web clients

¹⁰⁾ Mixed configuration: 50 web clients + 1 WinCC Client

More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-professional>

Overview
Communication – SIMATIC WinCC Runtime Advanced

WinCC Advanced is an open visualization system and offers the option of connecting the most diverse control systems.

Number of connectable controllers

WinCC Advanced permits the parallel coupling of up to 8 controllers.

Connection to controllers from other manufacturers.

The following "Coupling overview" table includes lists of third-party protocols and controllers from other manufacturers which are directly supported by WinCC Advanced. Generally it is also possible to connect controllers from other manufacturers via OPC (OLE for Process Control).

Coupling overview for WinCC Runtime Advanced

| Protocol | Description | PC interface |
|--|--|--|
| SIMATIC HMI | | |
| Ethernet TCP/IP (HTTP communication) | HTTP communication for data exchange between SIMATIC HMI (client + server) ¹⁾ | CP 1612 A2 |
| SIMATIC S7 | | |
| Ethernet TCP/IP (S7 communication) | Channel for communication via Ethernet TCP/IP with max. 8 x SIMATIC S7 controllers S7-1200, S7-1500 S7-300, S7-400, S7-200 with CP 243-1 | CP 1612 A2 CP 1623 |
| MPI, PROFIBUS (S7 communication) | Channel for communication via MPI, PROFIBUS with max. 8 x SIMATIC S7 controllers S7-1200 with CM 1243-5 (DP master), S7-1500 S7-300, S7-400, S7-200 (passive S7-200 only) | CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623 |
| PPI (PPI protocol) | Channel for communication via PPI with 1 x SIMATIC S7-200 (network operation, e.g. parallel PG possible) | CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623 |
| Software interface (S7 communication) | Channel for communication via software interface with WinAC | |
| SINUMERIK ²⁾ | | |
| Ethernet TCP/IP (S7 communication) | Channel for communication via Ethernet TCP/IP with SINUMERIK 840D sl | CP 1612 A2 CP 1623 |
| MPI (S7 communication) | Channel for communication via MPI with SINUMERIK 840D sl | CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623 |

Current notes and information about OPC servers from many different suppliers can be found at:
<http://www.opcfoundation.org/>

WinCC Advanced supports the standards:

- OPC Data Access 2.05a
- OPC UA Data Access 1.01
- OPC XML Data Access 1.00 (client via DCOM/XML gateway)

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime communication**Overview**

| Protocol | Description | PC interface |
|--|--|--------------|
| Controllers from other manufacturers (WinCC V11.0 and higher) ³⁾ | | |
| Allen Bradley Ethernet IP | Channel for communication with max. 4 x Allen Bradley controllers via Ethernet TCP/IP with Allen Bradley Ethernet IP protocol The ControlLogix / CompactLogix, SLC500 / MicroLogix and PLC5 controllers are supported | CP 1612 A2 |
| Allen Bradley DF1 | Channel for communication with Allen Bradley controllers via DF1 protocol The controllers SLC500 / MicroLogix and PLC5 are supported ³⁾ | COM1/COM2 |
| Mitsubishi MC TCP/IP | Channel for communication with max. 4 x Mitsubishi controllers via Ethernet TCP/IP with Mitsubishi MC TCP/IP protocol The FX3, Q, and iQ/QnUD controller series are supported | CP 1612 A2 |
| Mitsubishi FX | Channel for communication with Mitsubishi controllers via FX protocol The FX1N, FX2N controllers are supported | COM1/COM2 |
| Modbus TCP/IP | Channel for communication with max. 4 x Modicon controllers via Ethernet TCP/IP using the Modbus TCP/IP protocol The Quantum, Momentum, Premium, TSX Micro, Compact and M340 controllers are supported | CP 1612 A2 |
| Modbus RTU | Channel for communication with Modicon controllers via the Modbus RTU protocol The Quantum, Momentum, and Compact controllers are supported | COM1/COM2 |
| Omron Link / Multi Link | Channel for communication with Omron controllers via the Link/Multi protocol The CP1x, CJ1x, CJ2H, CS1x, and CP2MC controllers are supported | COM1/COM2 |
| Cross-vendor | | |
| OPC client ^{1) 4)} for OPC DA, OPC UA DA, XML DA | Channel for OPC communication, WinCC can acquire data from OPC server applications | CP 1612 A2 |
| OPC server for OPC DA | Server applications for OPC communication; WinCC provides process data to OPC clients | CP 1612 A2 |

¹⁾ HTTP and OPC communication can be used in combination with the other couplings; regarding SIMATIC Panels that support HTTP or OPC communication, see the overview under "System interfaces (WinCC V11)".

²⁾ "SINUMERIK Operate WinCC RT Advanced" license required; for more information, see NC 60 Catalog.

³⁾ For detailed information regarding supported controllers, see "System interfaces (WinCC V11)".

⁴⁾ Application note:
Parallel use of the OPC client channel allows, for example, connection to an SNMP OPC server for visualization of the data present there. The SNMP OPC server enables monitoring of any network components (e.g. switches) that support the SNMP protocol. More information can be found under SIMATIC NET communications systems/SNMP OPC server.

Overview
Communication – SIMATIC WinCC Runtime Professional

WinCC Professional is an open process visualization system and offers the option of connecting the most diverse control systems.

Released communication software

Only communication software with the listed (or higher) product versions should be used. Corresponding SIMATIC NET upgrades are available for the upgrading of older versions.

Number of connectable controllers

With CP 1623, a maximum of 64 S7 controllers can be connected via Industrial Ethernet; with CP 5612/CP 5622 a maximum of 8 and with CP 5613 A3 a maximum of 44 S7 controllers via PROFIBUS. With approx. 10 or more controllers, the use of Industrial Ethernet is recommended.

Client-server communication

Communication between the clients and the server is implemented using the TCP/IP protocol. The construction of a separate PC-LAN is recommended. For small projects with correspondingly small message frame advent, a SIMATIC NET Industrial Ethernet can be used for both process communication (WinCC/server ↔ PLC) and for PC-PC communication (WinCC/client ↔ WinCC/server)

Controllers from other manufacturers

The following "Coupling overview" table includes lists of third-party protocols and controllers from other manufacturers which are directly supported by WinCC Professional. Generally it is also possible to connect controllers from other manufacturers via OPC (OLE for Process Control).

Current notes and information about OPC servers from many different suppliers can be found at:
<http://www.opcfoundation.org/>

WinCC Professional supports the standards:

- OPC Data Access 2.05a
- OPC Data Access 3.00
- OPC UA Data Access 1.01
- OPC XML Data Access 1.00
- OPC HDA 1.20
- OPC A&E 1.10

Coupling overview for WinCC Runtime Professional

| Protocol | Description | PC interface |
|---|--|--|
| SIMATIC S7 | | |
| SIMATIC S7 | Protocol Suite with channel units for communication with SIMATIC S7 via <ul style="list-style-type: none"> • Ethernet TCP/IP (S7 communication) to S7-1200, S7-1500, S7-300, S7-400 • MPI, PROFIBUS (S7 communication) to S7-1200 with CM 1243-5 (DP master), S7-1500, S7-300, S7-400 • Software interface (S7 communication) to Win AC | CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623 |
| Controllers from other manufacturers (WinCC V11.0 and higher) | | |
| Allen Bradley Ethernet IP | Channel for communication with Allen Bradley controllers via Ethernet TCP/IP with Ethernet IP protocol The ControlLogix / CompactLogix, SLC500 / MicroLogix, and PLC5 controllers are supported | CP 1612 A2 |
| Mitsubishi MC TCP/IP | Channel for communication with Mitsubishi controllers via Ethernet TCP/IP with Mitsubishi MC TCP/IP protocol The FX3, Q, and iQ/QnUD controller series are supported | CP 1612 A2 |
| Modbus TCP/IP | Channel for communication with Modicon controllers via Ethernet TCP/IP using the Modbus TCP/IP protocol The Quantum, Momentum, Premium, TSX Micro, Compact and M340 controllers are supported | CP 1612 A2 |
| Cross-vendor | | |
| OPC client ¹⁾ for OPC DA, OPC XML DA | Channel for OPC communication, WinCC can acquire data from OPC server applications | CP 1612 A2 |
| OPC server for OPC DA, OPC UA DA, OPC XML DA, OPC A&E, OPC HDA | Server applications for OPC communication; WinCC provides process data to OPC clients | CP 1612 A2 |

¹⁾ Application note:

Parallel use of the OPC client channel allows, for example, connection to an SNMP OPC server for visualization of the data present there. The SNMP OPC server enables monitoring of any network components (e.g. switches) that support the SNMP protocol. More information can be found under SIMATIC NET communications systems/SNMP OPC server.

HMI software

TIA Portal

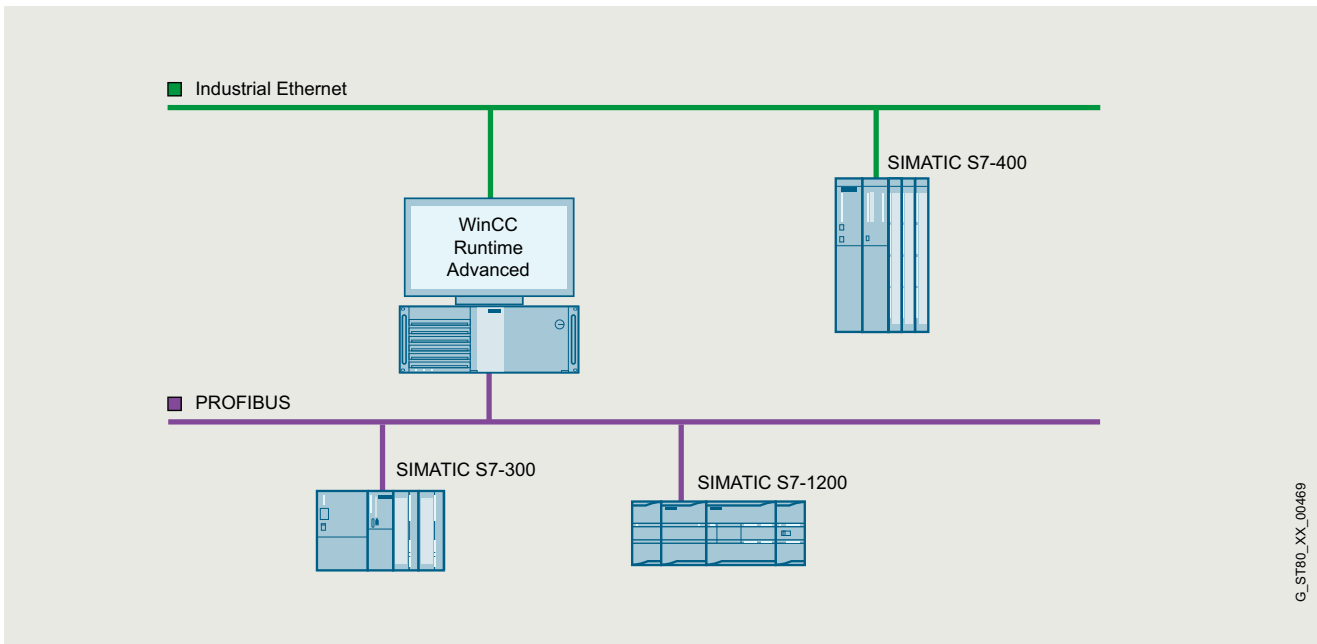
SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime communication

Overview

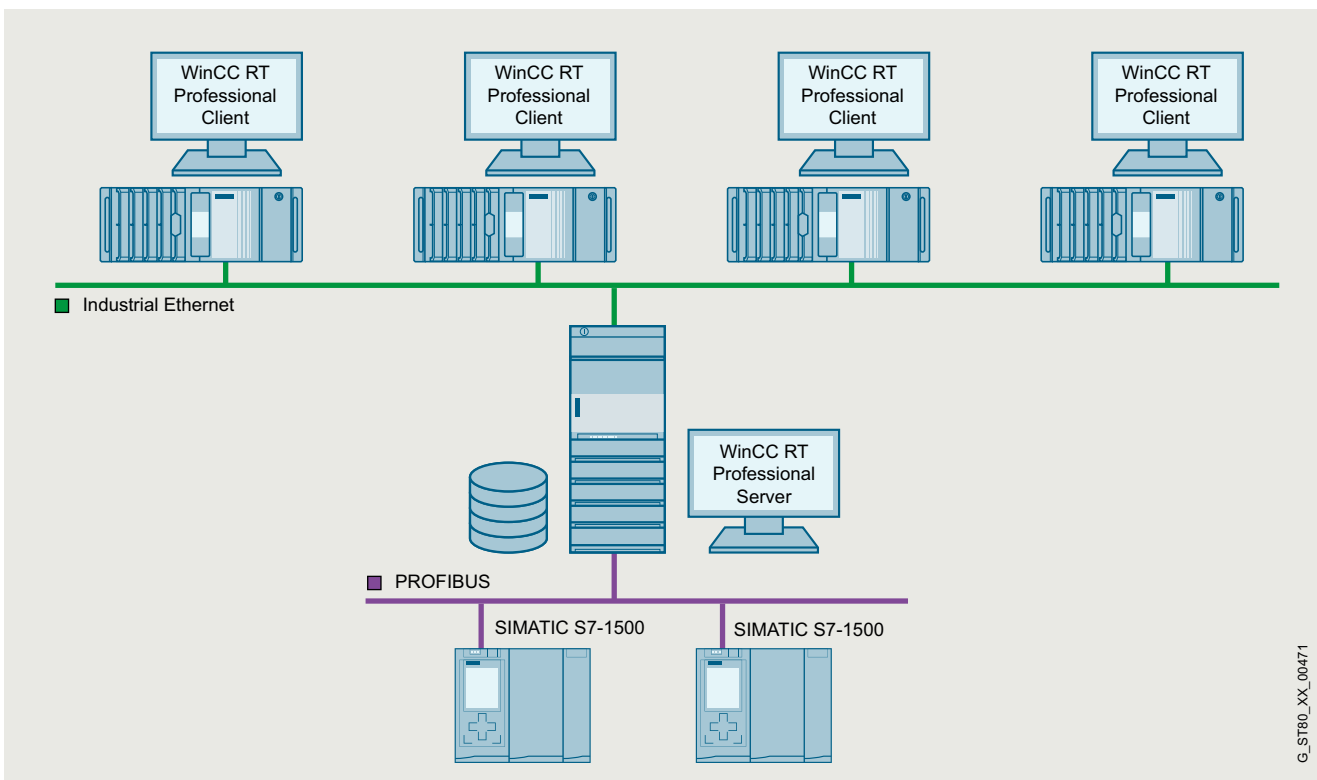
Communications examples

3



G_ST80_XX_00469

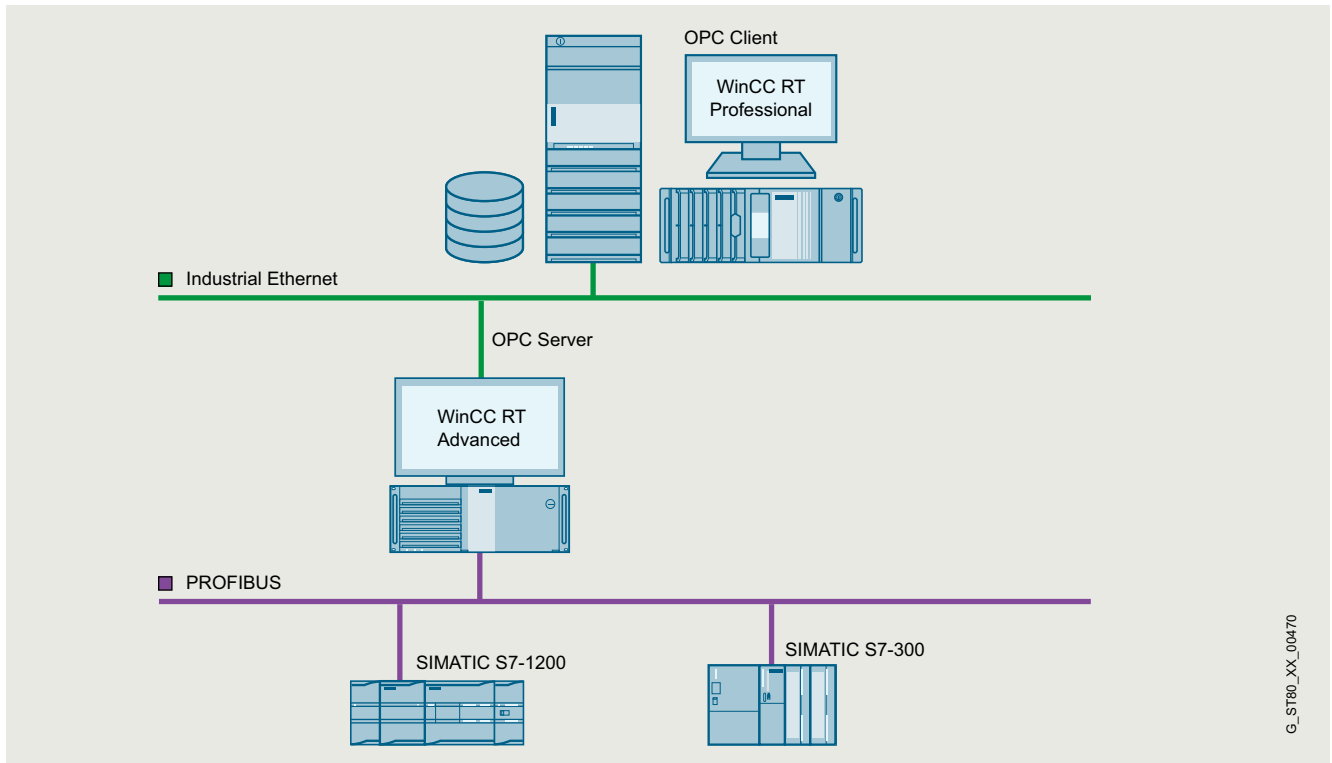
WinCC Runtime Advanced single-user system



G_ST80_XX_00471

WinCC Runtime Professional multi-user system with operable server

Overview



3

OPC coupling

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime communication**Ordering data****Article No.****Article No.****SIMATIC WinCC (TIA Portal) Communication via Industrial Ethernet TCP/IP****CP 1612 A2**

PCI card (32-bit) for connecting a programming device or PC to Industrial Ethernet (10/100/1 000 Mbps) with RJ45 connection via SOFTNET-S7 and SOFTNET PG.

Software requirement:
WinCC Runtime Advanced:
No further installation is required (SOFTNET-S7)

WinCC Runtime Professional:
SOFTNET-S7 Lean (maximum of 8 connections) or SOFTNET-S7 (maximum of 64 connections) must be installed (SOFTNET-S7 Lean is included in the scope of delivery of WinCC Runtime Professional)

6GK1161-2AA01**SIMATIC NET HARDNET-IE S7 V17 SP1**

Software for S7, open communication; OPC, PG/OP communication, project software; up to 120 connections; single license for one installation of runtime software, software and electronic manual on DVD; license key on USB flash drive; Class A

- Single license for 1 installation
- Upgrade package for SIMATIC NET from Edition 2006

6GK1716-1CB17-0AA0
6GK1716-1CB00-3AE0**CP 1623**

PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)

6GK1162-3AA00**Communication via PROFIBUS****CP 5612**

PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in the WinCC basic package)

6GK1561-2AA00**CP 5622**

PCI Express X1 card (32-bit) for connection of PG/PC to PROFIBUS (communications software included in WinCC basic package)

6GK1562-2AA00**CP 5711**

USB adapter (USB V2.0) for connecting a PG/notebook 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 (communication software must be ordered separately)

6GK1561-3AA02**CP 5623**

PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)

6GK1562-3AA00**SIMATIC NET SOFTNET-IE S7 V17 SP1**

Software for S7 and S5-compatible communication, incl. OPC server, PG/OP communication and NCM PC, up to 64 connections, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A

- Single license for 1 installation
- Upgrade package for SIMATIC NET from Edition 2006

6GK1704-1CW17-0AA0
6GK1704-1CW00-3AE0**SOFTNET-IE S7 Extended V17 SP1**

Software for S7-, S5-compatible communication, OPC; PG/OP communication, proj. SW up to 255 connections (S7) or 512 connections (S7-1200/S7-1500); single license for 1 installation

6GK1704-1BW17-0AA0**SIMATIC NET SOFTNET-IE S7 LEAN V17 SP1**

(included in the scope of delivery of WinCC Runtime Professional)

Software for S7-compatible and S5-compatible communication incl. 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

- Single license for 1 installation
- Upgrade package for SIMATIC NET from Edition 2006

6GK1704-1LW17-0AA0
6GK1704-1LW00-3AE0

Overview

Options for SIMATIC Panels, SIMATIC WinCC Runtime Advanced and SIMATIC WinCC Runtime Professional

SIMATIC ProDiag

- Fully-integrated TIA solution for machine and plant diagnostics
- Saves the need for programming diagnostics in the CPU during the engineering phase and provides support for troubleshooting directly on the HMI without an engineering system using diagnostic overviews and PLC code

SIMATIC Logon

- Creates user administration on a central computer to which one or more WinCC stations can be connected over Ethernet networks.
- With each user logon/logoff on one of the connected stations, SIMATIC Logon checks whether a user password has been created and that the required authorizations exist.
- SIMATIC Logon supports the user in combination with the Audit option in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.

Options for SIMATIC WinCC Runtime Advanced and SIMATIC WinCC Runtime Professional

SIMATIC WinCC Logging

- Logging of messages and process values
- Online evaluation of process value logs and alarm logs
- Evaluation of process value and alarm logs using standard MS tools such as Excel

SIMATIC WinCC Recipes

- Generation and management of data records for machine or production data
- Display or entry of data records via a configurable screen object or via process pictures distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records for further processing with other tools (e.g. MS Excel)

Options for SIMATIC Panels and SIMATIC WinCC Runtime Advanced

SIMATIC WinCC Audit

- Recording of operator actions in an audit trail
- Electronic signature for important user actions relevant to production
- Audit supports users in meeting special quality requirements, e.g.
 - Production plants requiring validation according to FDA 21 CFR Part 11
 - In respect of traceability according to EU 175/2002 (EU directive)

SIMATIC WinCC Sm@rtServer

- Flexible solution for location-independent access to HMI systems
- Remote maintenance of machines and plants via the internet/intranet
- Reduced downtimes for machines and plants due to direct remote access
- Flexible solution for location-independent access to machines and plants

Options for SIMATIC WinCC Runtime Professional

SIMATIC WinCC DataMonitor

- Display and evaluation of current process states and historical data on office PCs with standard tools.
- Information can be individually compiled online during runtime via the internet/intranet.

WinCC IndustrialDataBridge for WinCC Runtime Professional (V13 SP1 and higher)

Using the SIMATIC WinCC IndustrialDataBridge, communication links between different data sources and data targets can be created by means of simple configuration/parameter assignment. The WinCC IndustrialDataBridge can either be integrated into WinCC or used as a stand-alone application (not in conjunction with WinCC).

SIMATIC Information Server 2014 SP3

The SIMATIC Information Server 2014 SP3 is an open, web-based reporting system for interactive areas. Reports can be used in Internet Explorer, for Excel, Word or PowerPoint, as well as for Adobe Reader (pdf). The SIMATIC Information Server has access to archived process values and messages, and can be used either directly in conjunction with WinCC / WinCC/RT Professional / PCS7 OS or with SIMATIC Process Historian 2014.

For more detailed information on the SIMATIC Information Server and article numbers, see SCADA System SIMATIC WinCC.

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options**Overview**SIMATIC Process Historian 2014

The SIMATIC Process Historian 2014 is a powerful, long-term archive server solution that stores the WinCC process values and messages in a central database. The system offers full scalability for performance and scope. It records and stores data from one or more WinCC, WinCC/RT Professional and PCS 7 projects.

The number of connected single stations, servers, or redundant server pairs is unrestricted. SIMATIC Process Historian is designed for use throughout your plant, and is positioned below the corporate management level (ERP, MES).

For more detailed information on the SIMATIC Process Historian and article numbers, see SCADA System SIMATIC WinCC.

SIMATIC WinCC Redundancy

For assembling a high-performance, fail-safe, client-server system. One WinCC/Redundancy package is required for each redundant pair of servers.

SIMATIC WinCC Server and SIMATIC WinCC Client

For assembling a high-performance client-server system

- A number of coordinated HMI stations can be operated in a single group with networked automation systems
- Client/server solution:
 - One server supplies up to 32 connected clients with process and archive data, messages, screens and reports.

SIMATIC WinCC WebNavigator

- Operator control and monitoring of plants via the internet or the in-house intranet/LAN
- Web Client permits the operator control and monitoring of a current WinCC Runtime Professional project via an internet browser with ActiveX support

SIMATIC WinCC WebUX

- Mobile operator control and monitoring via the internet or the in-house intranet/LAN, using commercially available mobile devices.
- Platform and browser can be used independently on HTML5-capable and SVG-capable data terminal equipment without installation on the client.

Overview of the individual options

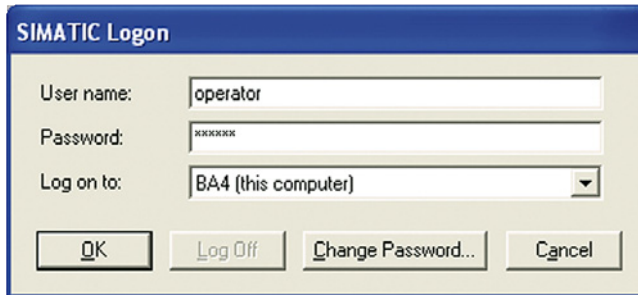
| Options | WinCC RT Advanced | WinCC RT Professional | SIMATIC Panels |
|-----------------------------------|-------------------|-----------------------|----------------|
| SIMATIC ProDiag | • | • | • |
| SIMATIC Logon | • | • | • |
| WinCC Logging | • | • | • 1) |
| WinCC Recipes | • | • | • 1) |
| WinCC Audit | • | - | • |
| WinCC Sm@rtServer | • 1) | - | • 1) |
| WinCC DataMonitor | - | • | - |
| WinCC IndustrialDataBridge | - | • | - |
| SIMATIC Information Server | - | • | - |
| SIMATIC Process Historian | - | • | - |
| WinCC Redundancy | - | • | - |
| WinCC Server/WinCC Client | - | • | - |
| WinCC WebNavigator | - | • | - |
| WinCC WebUX | - | • | - |

- possible

¹⁾ integrated in basic system

<http://www.siemens.com/wincc-tia-portal-options>

Overview



- Option for connecting SIMATIC Panels and PCs with SIMATIC WinCC Runtime Advanced as well as WinCC Runtime Professional to a central user administration.
- Creates user administration on a central computer to which one or more panels or WinCC stations can be connected over Ethernet.
- With each logging-on/off of a user on one of the connected stations, SIMATIC Logon checks whether a user password has been created and that the required privileges exist.

SIMATIC Logon for Panels and WinCC Runtime Advanced

- All users of the SIMATIC Panels or WinCC Runtime Advanced stations can be managed plant-wide from a central location
- Supports the user in combination with the Audit option in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.
- Licensing:
SIMATIC Logon (basic license) and SIMATIC Logon Remote Access (3-pack license) for the connection of 3 panels or WinCC Runtime Advanced stations to a central user administration. Additional stations can be connected by using further SIMATIC Logon Remote Access licenses (3-pack/10-pack).

SIMATIC Logon for WinCC Runtime Professional

- All users of WinCC Runtime Professional can be managed plant-wide from a central location.
- The central user management with SL utilizes Windows mechanisms and must be installed on all participating WinCC Runtime Professional stations.
- Licensing:
SIMATIC Logon (basic license) is included in the basic package of WinCC Runtime Professional

Benefits

- Centralized configuration of all access authorizations of a distributed system avoids unnecessary travel times. Time-consuming multiple configurations for each individual local station become unnecessary. Accordingly, users can be easily configured from a central location.
- All access data apply throughout the plant on every connected station. Additional access data on local subsystems is no longer necessary.

Design

SIMATIC Logon for Panels and WinCC Runtime Advanced

SIMATIC Logon and SIMATIC Logon Remote Access are installed on a central station.

The following Runtime stations are connected to the central station via the Ethernet network:

- PCs with WinCC Runtime Advanced
- SIMATIC Panels from the 177 series or higher (with Ethernet interface)
- SIMATIC Mobile Panels from the 177 series or higher (with Ethernet interface)
- SIMATIC Multi Panels
- SIMATIC Comfort Panels

SIMATIC Logon for WinCC Runtime Professional

The SIMATIC Logon can be used for the central user management of several WinCC Runtime Professional stations. Operation in a Windows Workgroup or even in a domain is possible.

Function

Users receive a unique user ID, user name and password. This information is encrypted and stored at a central point (for SIMATIC Logon in the Windows user management). Functions such as changing the password, automatic log-off after a predefined time and lockout after several incorrect entries of a password ensure maximum security of operation.

In addition, SIMATIC Logon allows setting up new users online, plant-wide and across applications, or blocking of existing users. SIMATIC Logon also supports electronic signature.

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > SIMATIC Logon**Ordering data****Article No.****SIMATIC Logon V1.6**Basic license ¹⁾

For Panels or WinCC Runtime Advanced stations, the corresponding number of additional SIMATIC Logon Remote Access licenses is required.

No SIMATIC Logon Remote Access licenses are required for WinCC Runtime Professional

6ES7658-7BX61-0YA0**SIMATIC Logon upgrade to V1.6****6ES7658-7BX61-0YE0****SIMATIC Logon Remote Access (3 clients)**

Remote Access for 3 clients; single license for 3 SIMATIC Logon Remote Access clients; the number of licensed clients is determined from the sum of the installed SIMATIC Logon Remote Access licenses.

6ES7658-7BA00-2YB0**SIMATIC Logon Remote Access (10 clients)**

Remote Access for 10 clients; single license for 10 SIMATIC Logon Remote Access clients; the number of licensed clients is determined from the sum of the installed SIMATIC Logon Remote Access licenses.

6ES7658-7BB00-2YB0**More information**

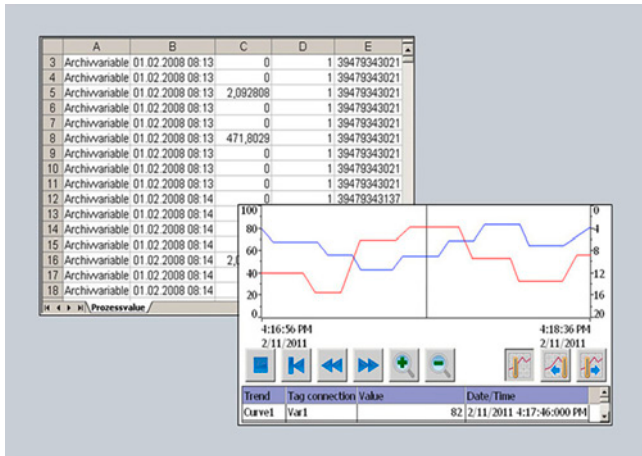
More information is available at:

<http://www.siemens.com/simatic-logon>

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¹⁾ SIMATIC Logon V1.5 included in scope of supply of WinCC Runtime Professional.

Overview



- Option for SIMATIC WinCC Runtime Advanced and WinCC Runtime Professional for logging process values and alarms
- Logging of process values and alarms supports the acquisition and processing of process data from an industrial plant or machine. Evaluation of the logged process data provides information about the operating states of the plant or machine
- Licensing:
 - SIMATIC Panels / Multi Panels / Comfort Panels: No license is required.
 - WinCC Runtime Advanced: One license is required per operator station
 - WinCC Runtime Professional: 500 Logging Tags are already included in the basic package. The number of Logging Tags can be increased by means of additional licenses

Benefits

- Alarm and process value logs enable predictive diagnostics, which avoids downtimes
- Early detection of danger and fault conditions
- Increase of the product quality and the productivity thanks to regular analysis of the alarm and process value logs

Application

- Transfer of the logs for evaluation and long-term archiving
- Detection of recurring error states
- Optimization of maintenance cycles
- Ensuring quality standards
- Quality assurance and checking the utilization of production sequences
- Documentation of process sequences

Function

- Time-controlled as well as manual or process-controlled swapping out of process data and alarms for long-term archiving
- During runtime, swapped out data are read in and selectively analyzed using WinCC Runtime Professional
 - Presentation and evaluation of archived process data based on a configurable trend display. Reading of the values is facilitated by a read line.
 - Presentation and evaluation of archived alarms based on a configurable alarm view.
 - User-friendly navigation in the logs
- External evaluation of the logs using MS standard tools
- Various log types are supported: sequence and circular logs
- Logging of process values and alarms on external, Windows-supported storage media
 - SIMATIC Panels and WinCC Runtime Advanced: CSV files, RDB files, Microsoft SQL Server via ODBC
 - WinCC Runtime Professional: Microsoft SQL Server 2005
- Powerful standard functions permit user-friendly and flexible utilization of the logs

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC Logging

Ordering data

Article No.

SIMATIC WinCC Logging for Runtime Advanced ¹⁾

- Single license, license key only on USB flash drive
- As download²⁾
Single license, license key download only
Email address required for delivery

6AV2107-0GA00-0BB0

6AV2107-0GA00-0BH0

SIMATIC WinCC Recipes + Logging for Runtime Advanced ¹⁾

- Single license per option, license key only on USB flash drive
- As download²⁾
Single license, license key download only
Email address required for delivery

6AV2107-0HA00-0BB0

6AV2107-0HA00-0BH0

SIMATIC WinCC Logging for Runtime Professional 1500 logging tags

- Single license, license key only on USB flash drive
- As download²⁾
Single license, license key download only
Email address required for delivery

6AV2107-0GB00-0BB0

6AV2107-0GB00-0BH0

SIMATIC WinCC Logging for Runtime Professional 5 000 logging tags

- Single license, license key only on USB flash drive
- As download²⁾
Single license, license key download only
Email address required for delivery

6AV2107-0GD00-0BB0

6AV2107-0GD00-0BH0

WinCC Logging for Runtime Professional Powerpack 1 500 -> 5 000 logging tags

- Single license, license key only on USB flash drive
- As download²⁾
Single license, license key download only
Email address required for delivery

6AV2107-2GD00-0BD0

6AV2107-2GD00-0BJ0

WinCC Logging Upgrade for SIMATIC WinCC Archives V7.0 (10 licenses)

- Single license per option, license key only on USB flash drive
- As download²⁾
Single license, license key download only
Email address required for delivery

6AV2107-4GX00-0BF0

Technical specifications

| WinCC Logging for Runtime Advanced | |
|---|--|
| | The values specified are maximum values |
| Number of logs | 100 |
| Archivable data | Process values, alarms |
| Cyclical trigger for archiving process values (variables) | 1 s |
| Max. number of entries per log (incl. sequence log) | 500,000 ¹⁾ |
| Log types | Circular logs, sequence logs (max. 400 per log) |
| Data storage format | CSV (Comma Separated Variable), RDB (Runtime Data Base), Microsoft SQL database (database not included in scope of delivery) |

¹⁾ Dependent on memory medium used

| WinCC Logging for Runtime Professional | |
|---|---|
| | The values specified are maximum values |
| Number of logs per single-user station/server | 100 |
| Archivable data | Process values, alarms |
| Measured values per second, max. | Server/single-user station: 5 000 per sec. |
| Log tags per single-user station/server | 80,000 ²⁾ |
| Log types | Circular log with and without long-term logging |
| Data storage format | Microsoft SQL 2008 database |

²⁾ Dependent on the Logging PowerPack used for the log tags. 500 log tags are contained in the basis version.

More information

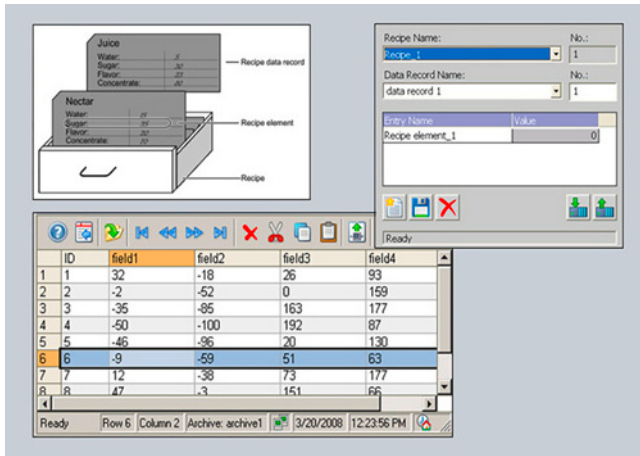
Additional information is available on the Internet at:

<http://www.siemens.com/wincc-logging-tia-portal>

¹⁾ One license is required for each operator station. A license is not required for the engineering system for configuring the runtime option.

²⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

Overview



- Option for SIMATIC WinCC Runtime Advanced and WinCC Runtime Professional for managing data records in recipes that contain related machine or production data
- The data in a data set can be transferred, for example, from the control unit to the PLC to switch production to a different product variant
- Licensing:
 - SIMATIC Panels / Multi Panels / Comfort Panels:
No license is required.
 - WinCC Runtime Advanced:
One license is required per operator station
 - WinCC Runtime Professional:
A license is only required on the server (or single-user system).

Benefits

- Generation and management of machine parameters and production data on the basis of data records, and exchange with the automation device, e.g. with the machine.
- Clear tabular representation of the data elements with the aid of a configurable screen object, or depiction in technological relationships across several process screens.
- Simple operator guidance through standard functions.
- Export/import of data records for further processing with other tools (e.g. MS Excel)

Function

- Input of data records (e.g. operating parameters of a machine, production data for a plastics machine) on the HMI device as well as their storage and transfer to the control
- Display or entry of data records via a configurable screen object or via several process screens distributed within the project
- The data record elements are coupled with the process via a direct tag connection
- Transmission of data records from or to the controller
- Powerful interfaces enable a synchronized data exchange with the controller.
- Storage of data records on local data carriers or on remote data servers via networks
- Logging of data records, e.g. as batch report/shift report
- User-friendly and flexible management of data records by powerful standard functions

The recipes and the associated data records are created using a separate, user-friendly WinCC Engineering editor and data is pre-assigned to them.

A configurable table object is used for displaying the data at runtime. Furthermore, the individual data record elements can also be displayed directly based on standard input/output fields across several process screens. In this way, the data in technological views can be presented clearly to the operator.

Import and export functions support the importing and exporting of data via external applications (e.g. MS Excel).

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC Recipes**Ordering data****Article No.****SIMATIC WinCC Recipes for Runtime Advanced**¹⁾

- Single license, license key only on USB flash drive
- As download²⁾ Single license, license key download only Email address required for delivery

6AV2107-0JA00-0BB0**6AV2107-0JA00-0BH0****SIMATIC WinCC Recipes + Logging for Runtime Advanced**¹⁾

- Single license, license key only on USB flash drive
- As download²⁾ Single license, license key download only Email address required for delivery

6AV2107-0HA00-0BB0**6AV2107-0HA00-0BH0****SIMATIC WinCC Recipes for Runtime Professional**¹⁾

- Single license, license key only on USB flash drive
- As download²⁾ Single license, license key download only Email address required for delivery

6AV2107-0JB00-0BB0**6AV2107-0JB00-0BH0**

¹⁾ One license is required for each operator console. A license is not required for the engineering system for configuring the runtime option.

²⁾ Current information and availability regarding the new delivery form can be found at: <http://www.siemens.com/tia-online-software-delivery>

Technical specifications

| | WinCC Recipes for Runtime Advanced |
|---|---|
| | The values specified are maximum values |
| Number of recipes | 1 000 |
| Number of elements per recipe ¹⁾ | 2 000 |
| User data length in KB per data record | 256 |
| Number of data records per recipe | 5 000 |

¹⁾ When using arrays, each array element represents a recipe element

| | WinCC Recipes for Runtime Professional |
|---|---|
| | The values specified are maximum values |
| Number of recipes | 1 000 ²⁾ |
| Number of elements per recipe ¹⁾ | 500 ³⁾ |
| User data length in KB per data record | 3 000 ³⁾ |
| Number of data records per recipe | 3 000 ²⁾ |

¹⁾ When using arrays, each array element represents a recipe element

²⁾ Limited by system resources.

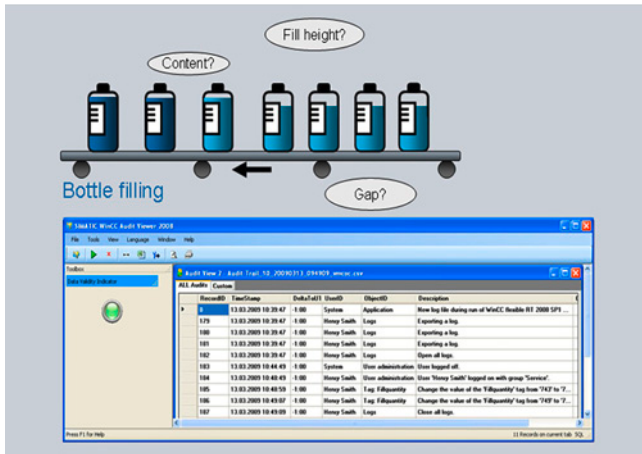
³⁾ The product of the number of recipe elements and the number of data records must not exceed a value of 320 000.

More information

More information is available at:

<http://www.siemens.com/wincc-recipes-tia-portal>

Overview



- Option for SIMATIC WinCC Runtime Advanced as well as SIMATIC Panels for recording operations in an audit trail, and electronic signature
- The audit trail is furnished with a security mechanism that displays subsequent manipulations.
- A user-friendly configuration function, which is included as standard in WinCC, is used to define the following:
 - Which operator actions should be recorded in the audit trail during runtime
 - Which important operator actions during runtime require electronic signature/comments
- Available for the following SIMATIC HMI systems:
 - Comfort Panels
 - Mobile Panels
 - TP/OP 277
 - MP 277
 - MP 377
 - WinCC Runtime Advanced
- Licensing:
 - A license for SIMATIC WinCC Logging and SIMATIC WinCC Audit is required for every operator station (panel or PC).

Benefits

- Audit supports the user in meeting special quality requirements, e.g.
 - Production plant requiring validation according to 21 CFR Part 11 FDA ¹⁾
 - In respect of traceability according to EU 175/2002 ²⁾
- The entries in the audit trail are uniquely assigned to users. This means that responsibilities are clearly identifiable.
- The audit trail, stored as a CSV file ³⁾, can be checked via a security mechanism to find out if subsequent changes have been made.
- For particularly important user actions, e.g., starting production or loading new recipes, electronic signatures and comments can be configured and then called up and logged during runtime.

¹⁾ The FDA (Food and Drug Administration) is the American public health body

²⁾ 21 CFR Part 11- law on plant validation

³⁾ CSV Comma Separated Values

Ordering data

Article No.

SIMATIC WinCC Audit for SIMATIC Comfort/Mobile Panels

- Single license, license key only on USB flash drive
- As download ¹⁾ Single license, license key download only Email address required for delivery

6AV2107-ORP00-0BB0

6AV2107-ORP00-0BH0

SIMATIC WinCC Audit for Runtime Advanced ²⁾

- Single license, license key only on USB flash drive
- As download ¹⁾ Single license, license key download only Email address required for delivery

6AV2107-ORA00-0BB0

6AV2107-ORA00-0BH0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

²⁾ The following license is also required: SIMATIC WinCC Logging for Runtime Advanced

Technical specifications

| | WinCC Audit |
|--|--|
| Storage location for Audit Trail when used on the Panel | Plug-in Flash memory card or via Ethernet in the higher-level PC |
| Storage location for Audit Trail when using WinCC Runtime Advanced | Local hard disk or via Ethernet in the higher-level PC |
| Execution platform | |
| SIMATIC Panels | Mobile Panel 277, TP/OP 277 |
| SIMATIC Multi Panels | MP 277, MP 377 |
| SIMATIC Comfort Panels | all |
| PC systems | SIMATIC WinCC Runtime Advanced |

More information

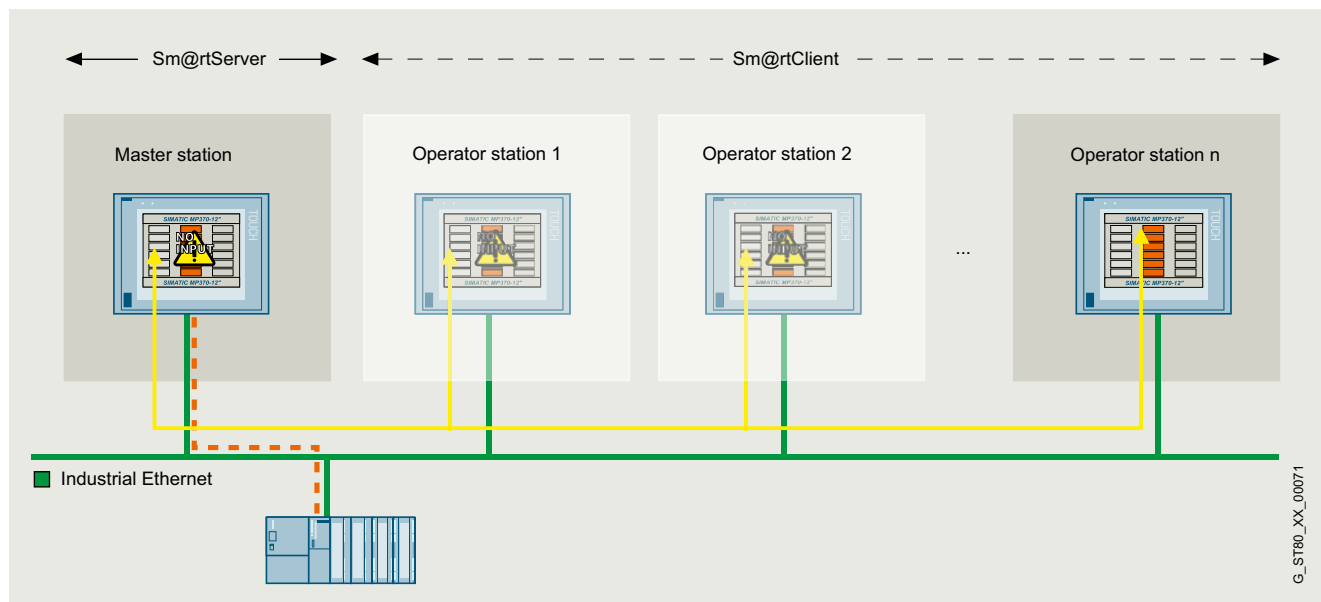
More information is available at:

<http://www.siemens.com/wincc-audit-tia-portal>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC Sm@rtServer**Overview**

- Option for SIMATIC WinCC Runtime Advanced plus SIMATIC Panels for communication between various SIMATIC HMI systems.
- Available for the following SIMATIC HMI systems:
 - Basic Panels 2nd Generation (with Ethernet interface)
 - Comfort Panels
 - Mobile Panel 2nd Generation, Mobile Panel 277, Mobile Panel 177 PN
 - TP 177B PN/DP, OP 177B PN/DP
 - TP 277, OP 277
 - MP 177, MP 277, MP 377
 - WinCC Runtime Advanced
- A SIMATIC HMI system can be used to control or monitor another system remotely; entry level for client/server configurations for distributed operator stations or for solutions with head end or control room
- Local operation, visualization and data processing are as possible as plant-wide access to information. Integrated information flows ensure an overview of the status of all processes.
- Licensing:
The "SIMATIC WinCC Sm@rtServer for Panel" or "SIMATIC WinCC Sm@rtServer for Basic Panel" or "SIMATIC WinCC Sm@rtServer for Runtime Advanced" license must be installed on the server operator panel. A separate license is no longer required for Comfort / Mobile Panels Version V14 or higher and for Runtime Advanced Version V14 SP1 or higher. A license is not required for the engineering system for configuring the runtime option.

Note:

When accessing the operator stations via the Sm@rtServer option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

Additional information on the topic of industrial security is available on the Internet at:

<http://www.siemens.com/industrialsecurity>

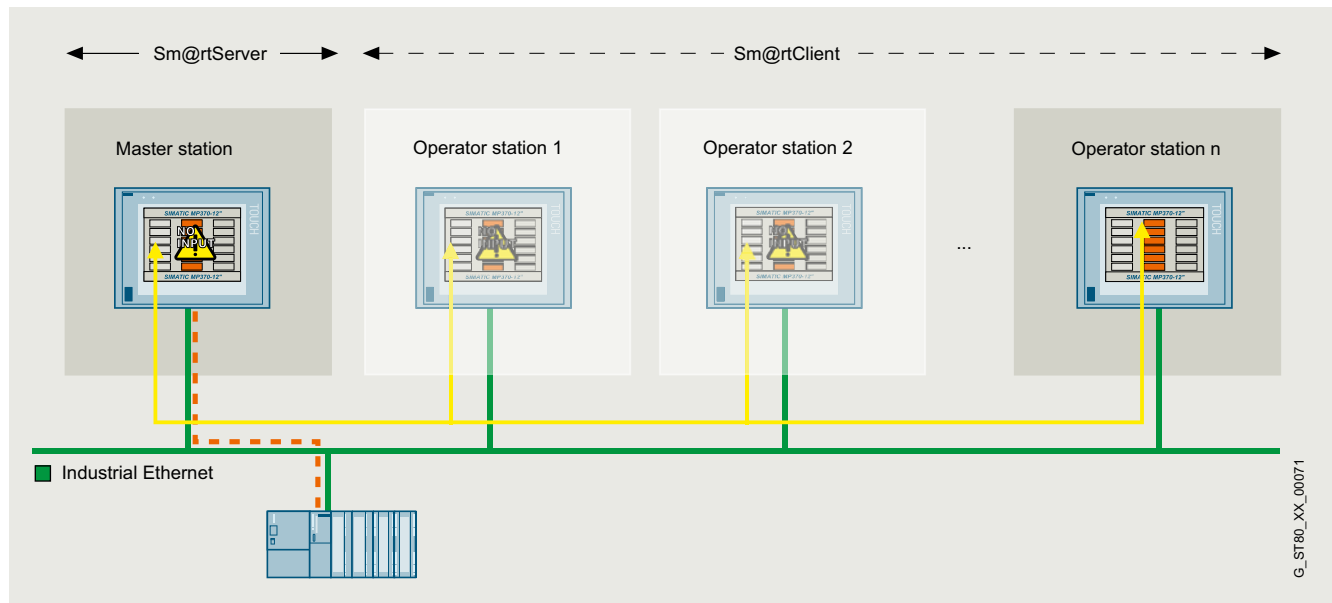
G_STB0_XX_00071

Benefits

- Flexible solution for remote access to HMI systems
- Quick elimination of malfunctions or downtimes – thus increasing the productivity – through global access to machines/plants by the service and maintenance personnel.
- Avoidance of on-site service calls.

Application

- Operator control and monitoring of machines covering large areas with several operator stations by one operator.
- Operator control and monitoring of machine-level HMI systems from one central station (e.g. head-end station of a production line or from a control room)
- Remote maintenance and servicing of machines/plants over the Internet/Intranet



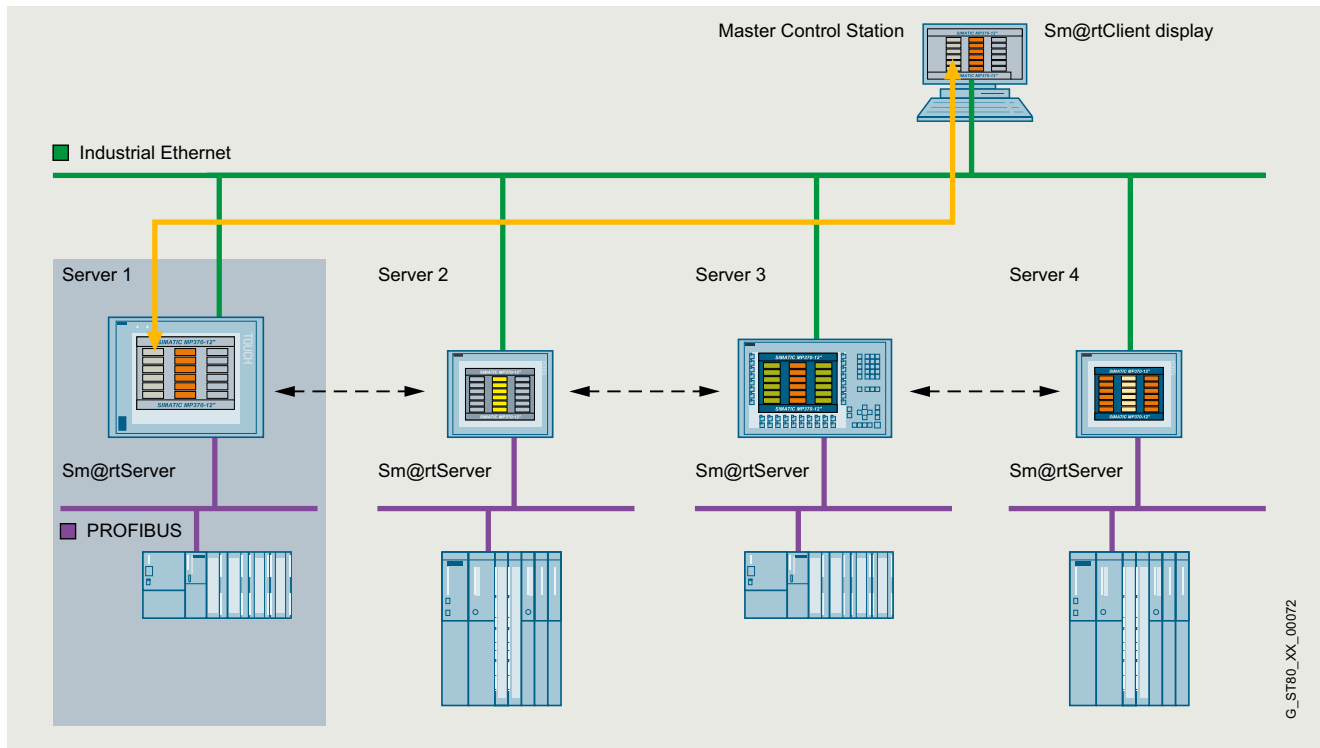
Application of the Sm@rtClient concept: Coordinated operation of several operator stations

HMI software
TIA Portal
SIMATIC WinCC (TIA Portal)

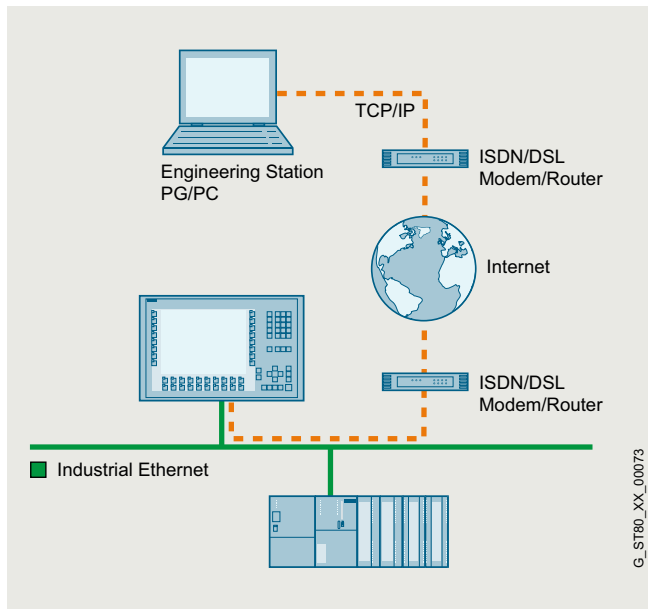
SIMATIC WinCC (TIA Portal) options > WinCC Sm@rtServer

Application

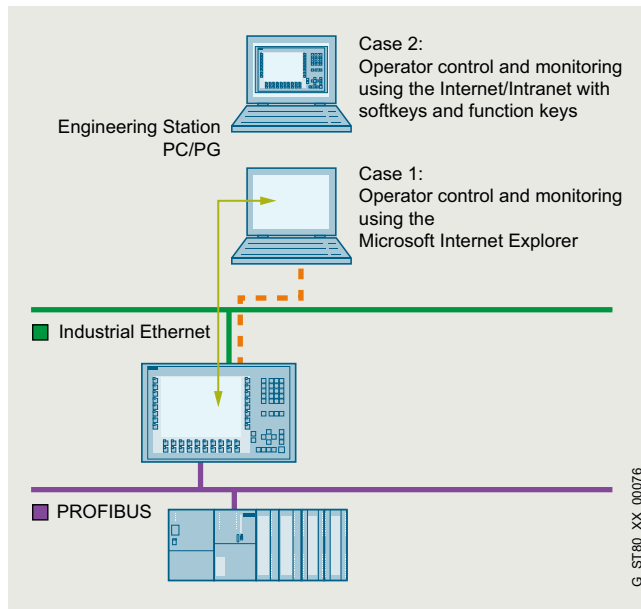
3



Use of the Sm@rtClient display: Operator control and monitoring of machine-level HMI systems from one central station



Remote operator control and monitoring of SIMATIC HMI systems using Industrial Ethernet and/or via the Intranet/Internet



Remote operator control and monitoring of SIMATIC HMI systems using Industrial Ethernet and/or via the Intranet/Internet

Function

Coordinated operation of several operator stations:

- The HMI application and communication with the controller takes place via the master station. "Sm@rtClients" can be activated from here in the case of machines/plants with larger dimensions which require a larger number of operator panels. The Sm@rtClients are then provided with access to the master station and thus to the process. Access procedures guarantee that only one operator system can actively access the process at any given time.
- Embedded in process screens, a configurable screen object (Sm@rtClient display) represents the screen of the relevant HMI system (Sm@rtServer)
- Powerful standard functions permit user-friendly and flexible operation of the display

Remote control of an operating station:

- The HMI application and communication with the controller takes place via the HMI system. Using the Sm@rtServer, the HMI systems in the machines/systems can be serviced remotely. An access process ensures that only one operator (either locally at the machine or remotely via Internet Explorer) can actively access the process at one time.
- Microsoft Internet Explorer V6.0 SP1 or higher is sufficient for accessing an HMI system.

Ordering data

Article No.

WinCC Sm@rtServer for SIMATIC Basic Panels ^{1) 5)}

- Single license
License key only on USB flash drive
- As download²⁾
Single license,
license key download only
Email address required for delivery

6AV2107-0CR00-0BB0

6AV2107-0CR00-0BH0

WinCC Sm@rtServer for SIMATIC Panels ^{1) 3)}

- Single license
License key only on USB flash drive
- As download²⁾
Single license,
license key download only
Email address required for delivery

6AV2107-0CP00-0BB0

6AV2107-0CP00-0BH0

WinCC Sm@rtServer for Runtime Advanced ^{1) 4)}

- Single license
License key only on USB flash drive
- As download²⁾
Single license,
license key download only
Email address required for delivery

6AV2107-0CA00-0BB0

6AV2107-0CA00-0BH0

¹⁾ The license must be installed on the Sm@rtServer operator panel. A license is not required for the engineering system for configuring the runtime option.

²⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

³⁾ The license is no longer required for version V14 or higher

⁴⁾ The license is no longer required for version V14 SP1 or higher

⁵⁾ The license is no longer required for version V17 or higher

Technical specifications

| WinCC Sm@rtServer | |
|--|--|
| | The values specified are maximum values |
| Execution platform | |
| SIMATIC Basic Panels 2 nd Generation | All devices with Ethernet interfaces |
| SIMATIC Comfort Panels | all |
| SIMATIC Panels | Mobile Panel 177 PN, Mobile Panel 277, TP/OP 177B PN/DP, TP/OP 277 |
| SIMATIC Multi Panels | MP 177, MP 277, MP 377 |
| PC systems | SIMATIC WinCC Runtime Advanced |
| Number of Sm@rtClients that can simultaneously connect to a Sm@rtServer | |
| SIMATIC Basic Panels 2 nd Generation | 1 client |
| Comfort Panel, Mobile Panel 2 nd Generation as Sm@rtServer | 2 clients for 4" devices 3 clients for 7", 9", 12" and 15" devices 2 clients for 19" devices 1 client for 22" devices |
| Mobile Panel 177 PN, TP/OP 177B PN/DP, MP 177 as Sm@rtServer | 2 clients |
| Mobile Panel 277, TP/OP 277, MP 277 as Sm@rtServer | 3 clients for 6" devices 2 clients for 8" and 10" devices |
| MP 377 as Sm@rtServer | 3 clients for 12" devices 2 clients for 15" devices 1 client for 19" devices |
| WinCC Runtime Advanced as Sm@rtServer | 5 clients |

More information

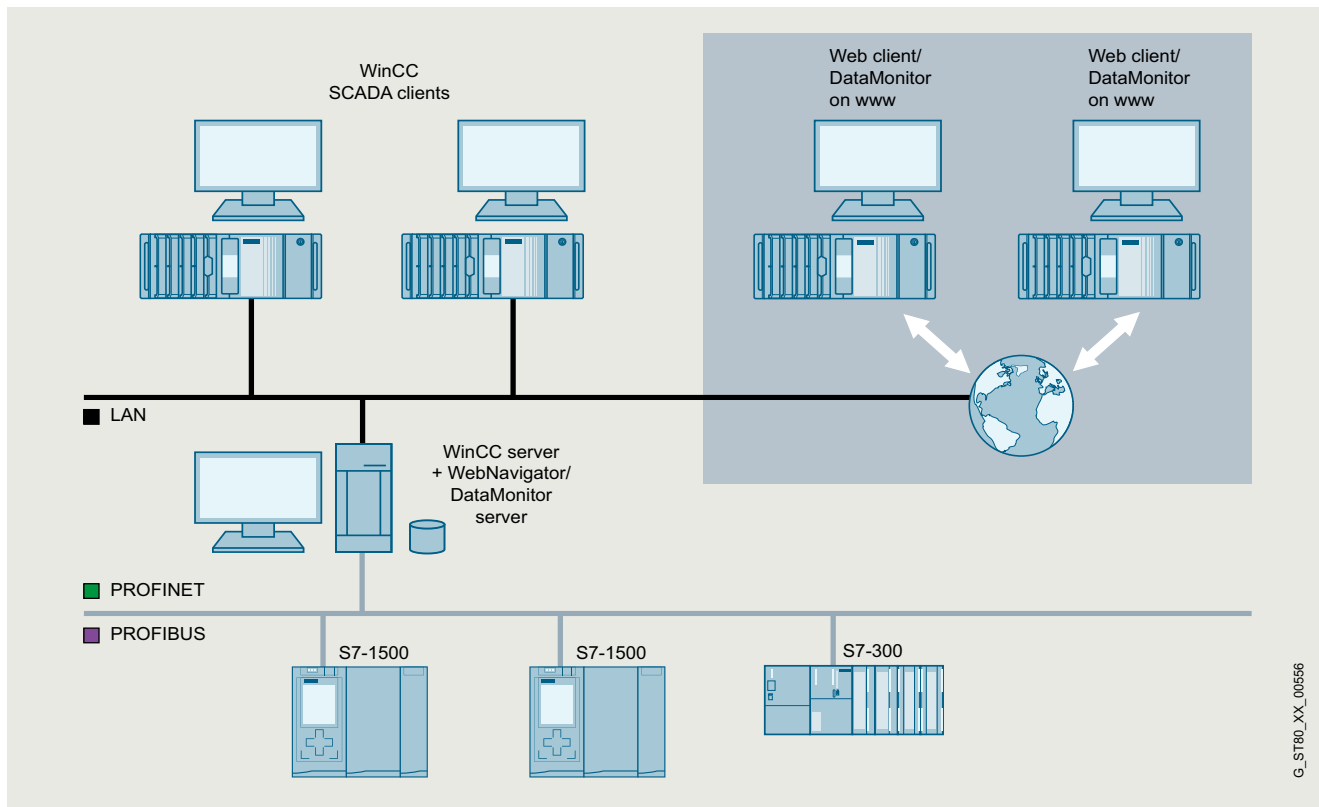
More information is available at:

<http://www.siemens.com/wincc-smartserver-tia-portal>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC DataMonitor**Overview**

WinCC DataMonitor

- The WinCC DataMonitor is used for display and evaluation of current process states and historical data on office PCs using standard tools such as Microsoft Internet Explorer or Microsoft Excel. The DataMonitor Client is supported by a web server with current and historical process data and alarms. All staff ranging from machine operators to corporate managers can use the DataMonitor to obtain information. In combination with WinCC V7 and with the aid of the multiclient architecture, access can be made to several lower-level WinCC stations.
- DataMonitor is a suite of Internet-capable tools:
 - Process Screens
Tool exclusively for monitoring and navigating via WinCC or WinCC Runtime Professional screens using the WinCC Web Viewer (WinCCViewer RT) in the "view only" mode
 - Excel Workbooks
Logging tool that integrates WinCC or WinCC Runtime Professional Archive and online values into Microsoft Excel and supports online analysis
 - Published Reports
Event- or time-driven execution of Excel or PDF reports for the output of process data and analysis results.
 - WebCenter
Individual configuration of Internet pages and compilation of information within a portal.
- DataMonitor does not require manual client installation because it loads the required components from the DataMonitor server
- There is no installation required on the client for the WebCenter, Trends and Alarms functions.

Licenses

- A (server-based) license is required for the WinCC DataMonitor. This is a graduated license based on the number of simultaneous web client access operations and can be incremented at any time using additive web client licenses (countable licenses).
- The DataMonitor Client software can be installed as many times as required without the need for a license.

Additional information is available 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>

G_ST80_XX_00556

Benefits

- Information can be compiled online individually during runtime via the Internet/Intranet.
- Efficiently monitor and analyze production lines.
- Easily collect and distribute information.
- Substantiate decisions with reports.
- View production status anywhere and anytime.

Highlights:

- With the WebCenter function, archive tags can be accessed without changing the configuration system.
- Dedicated Internet pages can be created for displaying data with the WebCenter.
For this purpose, for example, a bar chart, a pie chart or a trend graph is available.
- The analyses can be made with relative or absolute time specification.
This enables comparisons of identical time periods on different days.
- Reports can be made available on the DataMonitor server or emailed automatically based on time intervals or triggered by events.
- Support of Microsoft Internet Explorer version, including "tabbed browsing".

Function

- All tools are fully Internet-compatible and, therefore, support access via any type of connection (LAN, GSM, radio, modem, Internet, etc.).
- All popular security mechanisms such as login/password, firewalls, encryption, etc. are supported.
- Users can combine the available tools at will.
Licensing only takes into account simultaneous access to one web server.
- For display purposes, screens from the WinCC project can be used or special overview displays configured.
Animations, scripts, navigation and access rights remain valid.
- The WinCC DataMonitor has purely a display function
- Company-wide Excel reports, which contain historical and current process values, can be stored centrally for general access (reports, statistics).
However, local queries to meet individual requirements can also be compiled and executed online.
Plot and trend displays are supported for archive data already swapped out.
- Enhanced user management for the WebCenter in order to assign individual Internet pages and created reports to specific user groups.
- A search function simplifies the management of connections to the WinCC server

Ordering data

Article No.

SIMATIC WinCC DataMonitor as from Runtime Professional V14 and WinCC as from V7.4 ²⁾

Standard scope of supply

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)

6AV6362-3AB00-0BB0
6AV6362-3AD00-0BB0
6AV6362-3AF00-0BB0
6AV6362-3AJ00-0BB0

As download¹⁾

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)

6AV6362-3AB00-0AH0
6AV6362-3AD00-0AH0
6AV6362-3AF00-0AH0
6AV6362-3AJ00-0AH0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

²⁾ As from WinCC V14 the licenses are cumulative (countable), i.e. one 10 client license and one 30 client license permit access by 40 clients.

A license is not required for the engineering system for configuring the runtime option.

More information

Additional information is available on the Internet at:

<http://www.siemens.com/wincc-datamonitor>

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC Redundancy

Overview

Option for SIMATIC WinCC (TIA Portal), 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 contents of all the message and process value archives are copied to it.

One WinCC Redundancy package is required for each redundant pair of servers.

Benefits

- Increased system availability with gap-free data integrity
- Automatic switchover of the client when a server fails or the communication to the server fails
- Continuous operation and visualization through automatic switchover of the clients to the intact server
- Automatic synchronization of all archives in the background after a fault is cleared

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

SIMATIC WinCC Redundancy for Runtime Professional

- Single license for 2 installations, license key on USB flash drive, software and documentation on DVD
- As download¹⁾
Single license for 2 installations, license key download only
Email address required for delivery

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

A license is not required for the engineering system for configuring the runtime option.

Article No.

6AV2107-0FB00-0BB0

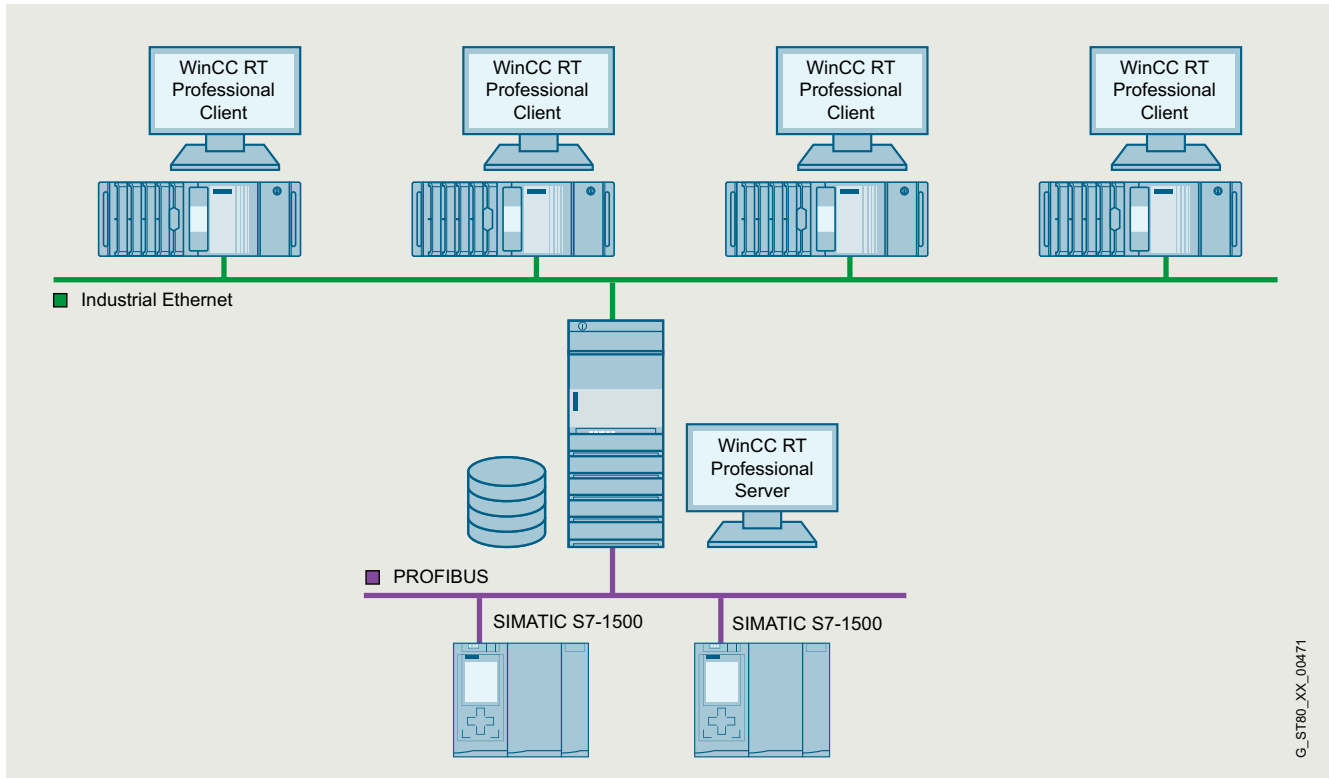
6AV2107-0FB00-0BH0

More information

More information is available at:

<http://www.siemens.com/wincc-redundancy-tia-portal>

Overview



G_ST80_XX_00471

- Option for SIMATIC WinCC Runtime Professional, which permits the configuration of a powerful client/server system
- One of the following operating systems must be available to install the option on the server:
Windows Server 2003 R2 SP2,
Windows Server 2008 SP2 or
Windows XP Professional.
When using Windows XP Professional,
a maximum of 3 clients can be connected.
- A number of coordinated HMI stations can be operated in a single group with networked automation systems.
- Client/server solution: One server supplies up to 32 connected clients with process and archive data, alarms, screens and reports.
 - Requirement: Network connection (TCP/IP) between the server PC and the connected clients.
- Licensing:
 - A WinCC Runtime Professional license on the server with the appropriate number of PowerTags and the "WinCC Server for RT Professional" license.
 - The "WinCC Client for RT Professional" license on the clients.

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC Server / WinCC Client

Benefits

- Integrated scalability from the single-user system to the client/server solution
- Considerably expanded quantity structure, relieves the load on the individual servers, and thus better performance through the distribution of the overall application or of the tasks among several servers

Application

In a complex plant, WinCC Runtime Professional can be configured as a distributed system depending on the requirements:

- Functional distribution (e.g. alarm server, log server, etc.), or
- Distribution corresponding to the physical plant structure (e.g. body-in-white, paint shop, etc.).

Function

All process data of a WinCC project is stored in different Runtime databases, e.g. alarms, trend values, etc. These Runtime databases are located on a central computer, the WinCC Server, instead on each HMI device. The operator stations, i.e. the WinCC Clients, then access the WinCC Server.

WinCC Clients and WinCC Server are independent systems. You can also connect WinCC Clients subsequently. Alternatively, you can activate and deactivate a project from a WinCC Client.

Ordering data

Article No.

SIMATIC WinCC Server for Runtime Professional

- Single license, license key only on USB flash drive

6AV2107-0EB00-0BB0**As download¹⁾**

- Single license, license key download only, Email address required for delivery

6AV2107-0EB00-0BH0**SIMATIC WinCC Client for Runtime Professional****V17**

- Single license, license key on USB flash drive, software and documentation on DVD
- Single license, software and license key download. Email address required for delivery

6AV2107-0DB07-0AA0**6AV2107-0DB07-0AH0****SIMATIC WinCC Client for Runtime Professional ASIA V17**

Single license, license key on USB flash drive, software and documentation on DVD

6AV2107-0DB17-0AA0**V16**

- Single license, license key on USB flash drive, software and documentation on DVD

6AV2107-0DB06-0AA0**As download¹⁾**

- Single license, software and license key download. Email address required for delivery

6AV2107-0DB06-0AH0**SIMATIC WinCC Client for Runtime Professional ASIA V16**

Single license, license key on USB flash drive, software and documentation on DVD

6AV2107-0DB16-0AA0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

A license is not required for the engineering system for configuring the runtime option.

More information

More information is available at:

<http://www.siemens.com/wincc-server-tia-portal>

Overview

WinCC WebNavigator

- Option for SIMATIC WinCC or WinCC Runtime Professional for operating and monitoring plants over the Internet, company Intranet or LAN.
- Configuration from:
 - A web server with SIMATIC WinCC as single-user or server version and a web client that permits operator control and monitoring of a current WinCC project using the Internet Explorer. In combination with WinCC V7, the WebNavigator Server can be operated on a MultiClient

Licenses

- A (server-based) license is required for the WebNavigator. This is a graduated license based on the number of simultaneous web client access operations and can be incremented at any time using additive web client licenses (countable licenses).
- The WebNavigator client software can be installed as many times as required without the need for a license.
- A (client-based) license is required for the WebNavigator diagnostics. This provides access to all web servers with a WebNavigator Server or WebNavigator Diagnostic Server license.
- The WinCC/WebUX and WinCC/WebNavigator licenses can be combined, if necessary.

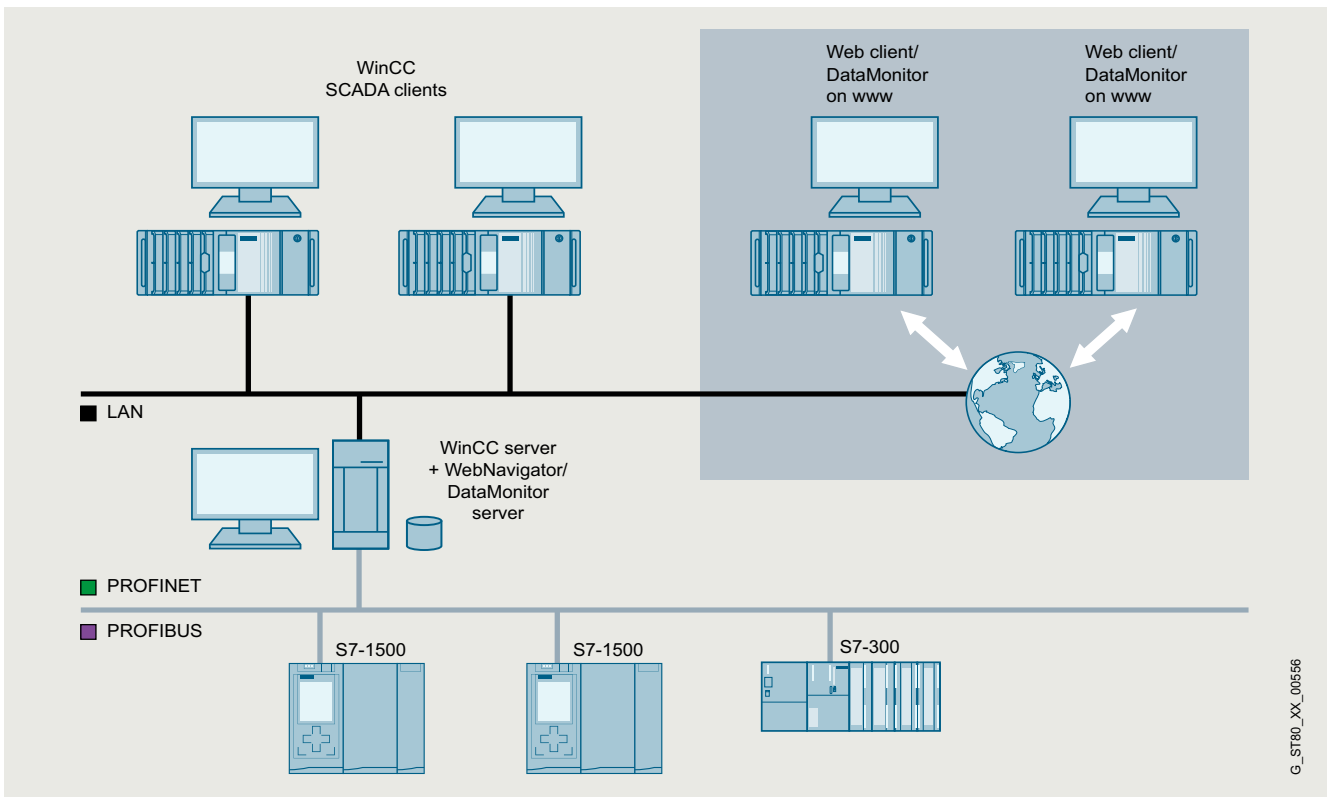
You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

Note:

When accessing the operator stations via the WinCC WebNavigator option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

You will find more information on the topic of Industrial Security on the Internet at:

<http://www.siemens.com/industrialsecurity>

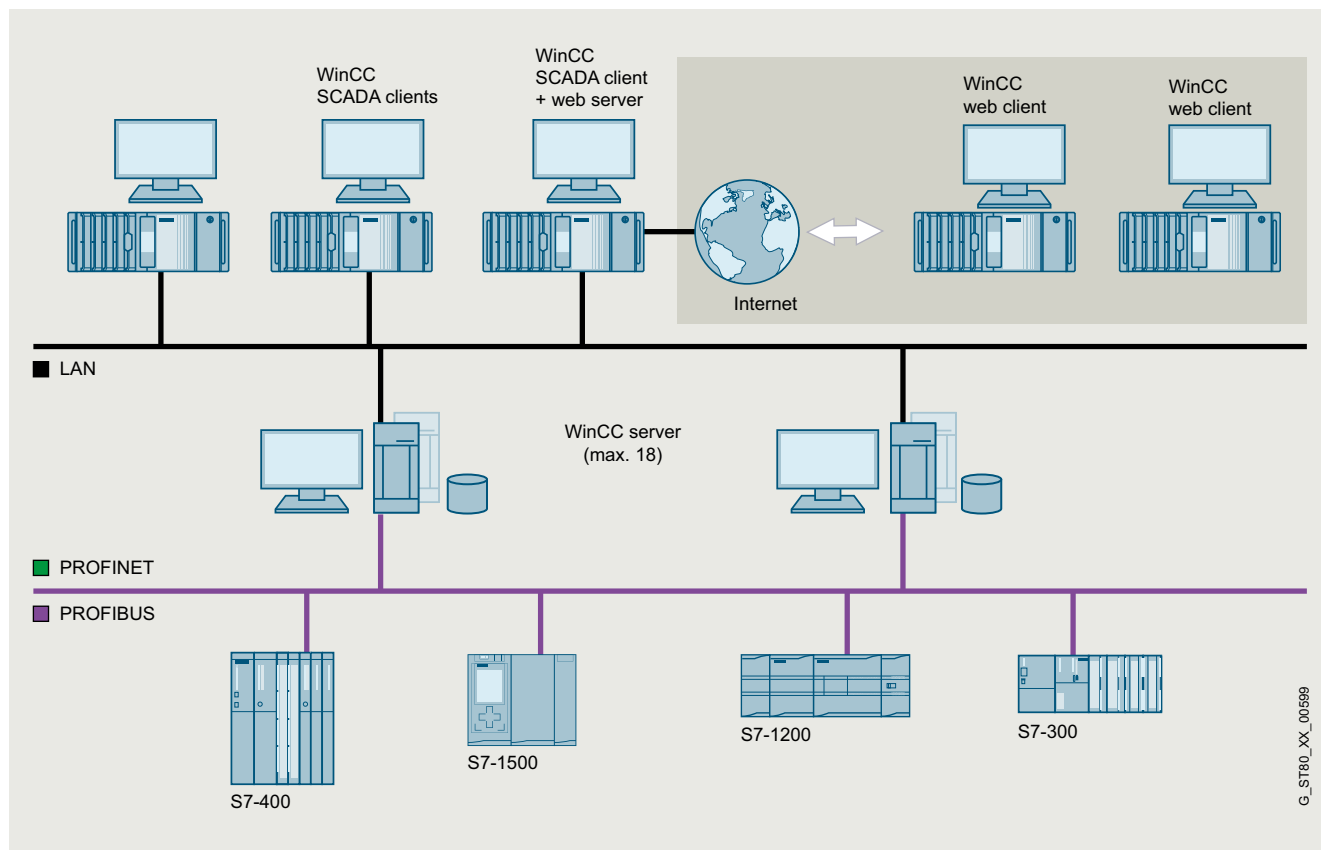


WinCC Server as web server

HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

SIMATIC WinCC (TIA Portal) options > WinCC WebNavigator**Benefits**

WinCC MultiClient as web server

Benefits

- Operator control and monitoring across long distances and on different platforms (PC, local panel, mobile PDA)
- Large configurations with up to 150 operator stations (depending on the plant complexity and communication load)
- Optimally tailored clients for operating and monitoring, analysis, service and diagnostics
- Acceptance of configuration data for the web, generally without changes
- Minimum maintenance costs due to central software administration
- With the WinCC Web Viewer (WinCC Viewer RT), the process screens can be displayed on the web client independently of the Internet Explorer. Settings for the client are made on the client itself. The WinCC Web Viewer can also be used in conjunction with the MS Terminal Service.
- The SIMATIC WinCC WebNavigator can also be operated in "view only" mode and is thus used as tool for monitoring and navigating using Internet Explorer or WinCC Web Viewer (WinCC Viewer RT).
- Security is increased by adjustable automatic logout. If an automatic logout is to take place, an absolute or inactive time period can be set.

Application

In addition to the standard WebNavigator licensing, there is the "Diagnostics Client" with identical functionality but different licensing. It is especially suitable for the following applications:

- Remote diagnostics/operation of several unmanned WinCC server stations
 - Central control rooms that monitor several web servers via one user interface
 - Maintenance personnel who require guaranteed access to the server at any time, regardless of the number of users already logged on to the server.
- On the server side, only one WebNavigator Diagnostics Server license or, alternatively, one Standard WebNavigator license is required.

G_ST80_XX_00589

Design

Thin Client solutions

The WebNavigator can also run under Windows Server 2008 R2 SP1 or Windows Server 2012 R2 terminal services. The Windows Server 2008 R2 SP1 or Windows Server 2012 R2 operating system is required. This makes it possible, for example, to connect SIMATIC Thin Clients to the WinCC server as visualization stations.

For this purpose, the Windows terminal services must be installed on the PC on which the web client is installed. The Windows Server 2008 R2 SP1 or Windows Server 2012 R2 operating system is required.

Up to 25 Thin Clients can be connected to one terminal server.

Applications:

- Mobile devices
- Handhelds
- Rugged on-site visualizations

Function

The WinCC basic system makes setting up and configuring a WebNavigator Server very easy. WinCC process screens to be visualized via the Internet are created as usual using the graphic editor.

To display WinCC process screens on the web client, the Microsoft Internet Explorer or supplied browser-independent WinCC Web Viewer (WinCC Viewer RT) is used.

The operator on the web client is integrated in the central WinCC user administration and can operate and monitor the system according to the configured access rights.

The WebNavigator supports all standard security mechanisms that can be used for applications on the Internet, e.g. routers, firewalls and proxy servers.

Ordering data

Article No.

SIMATIC WinCC WebNavigator as from Runtime Professional V14 and WinCC as from V7.4 ²⁾

Single license, license key on USB flash drive

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)
- 100 client licenses (countable)

6AV6362-1AB00-0BB0
6AV6362-1AD00-0BB0
6AV6362-1AF00-0BB0
6AV6362-1AJ00-0BB0
6AV6362-1AM00-0BB0

As download ¹⁾

Single license, license key download. Email address mandatory

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)
- 100 client licenses (countable)

6AV6362-1AB00-0AH0
6AV6362-1AD00-0AH0
6AV6362-1AF00-0AH0
6AV6362-1AJ00-0AH0
6AV6362-1AM00-0AH0

SIMATIC WinCC WebNavigator Diagnostics Client

For WinCC V14 Runtime Professional and WinCC as from V7.4

- Standard scope of supply
- As download

6AV6362-1BA00-0BB0
6AV6362-1BA00-0AH0

WinCC WebNavigator Load Balancing

For WinCC V7.4 only

- Load Balancing
- Load Balancing Step Up

6AV6362-1FA00-0BB0
6AV6362-1GA00-0BB0

As download

RT-SW, single license, license key download. Email address mandatory

- Load Balancing
- Load Balancing Step Up

6AV6362-1FA00-0AH0
6AV6362-1GA00-0AH0

¹⁾ Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

²⁾ As from WinCC V14 the licenses are cumulative (countable), i.e. one 10 client license and one 30 client license permit access by 40 clients.

A license is not required for the engineering system for configuring the runtime option.

More information

You can find more information at:

<http://www.siemens.com/wincc-webnavigator>

HMI software

TIA Portal

TIA Portal options

Visualization

Overview

Much more than visualization software

From machine-level visualization all the way to the high-performance SCADA system, SIMATIC WinCC in the TIA Portal and its efficient tools covers the entire engineering and visualization software spectrum – integrated across all performance classes.

The following software is currently offered:

- SIMATIC WinCC Unified (TIA Portal)
 - SIMATIC WinCC Unified Engineering
 - SIMATIC WinCC Unified Runtime
 - SIMATIC WinCC Unified options
- SIMATIC WinCC (TIA Portal)
 - SIMATIC WinCC (TIA Portal) Engineering
 - SIMATIC WinCC (TIA Portal) Runtime
 - SIMATIC WinCC (TIA Portal) options
- TIA Portal options
 - TIA Portal Multiuser Engineering
 - TIA Portal Test Suite
 - TIA Portal Cloud Connector
 - TIA Portal Teamcenter Gateway
 - SIMATIC Visualization Architect
 - SIMATIC ProDiag
 - SIMATIC Modular Application Creator

Overview

SIMATIC Visualization Architect

Challenge:

- To standardize the user interfaces of the visualizations throughout the plant
- Significant reduction of the engineering costs for generating the visualizations
- To make the in-house work standard usable

Solution:

- Automatic generation and creation of the visualizations, based on the program code of the PLC and corresponding visualization objects within the framework of system-wide library concepts.

Licensing

- The software can be installed on multiple computers. The number of existing licenses determines the number of computers on which the software can be used simultaneously (floating license).
- An upgrade to the subsequent version is offered for users of previous versions.
- A rental license is available for temporary use
- A trial license is available for testing purposes.
- It is possible to conclude Software Update Service (SUS) contracts

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

- Automatic creation of visualizations – drastic reduction of the engineering time
- Reduction of the commissioning times by the early detection and avoidance of faults
- Adaptation at the touch of a button to the visualizations on the basis of changes/adaptations in the control program

Function

- Integration in the TIA Portal V14 or higher
- Support of controllers:
 - S7-1200, S7-1500, ET200SP
- Support of HMI:
 - Basic Panels, Comfort Panels and Mobile Panels of the 2nd Generation
- Support of PC-based:
 - WinCC Runtime Advanced, WinCC Runtime Professional, S7-1500 Software Controller
- SiVArc is configured using rules (not programmed!)

HMI software

TIA Portal

TIA Portal options

SIMATIC Visualization Architect**Ordering data****Article No.****SIMATIC Visualization Architect V17**As package

- SIMATIC Visualization Architect V17
- SIMATIC Visualization Architect V17 Rental
- SIMATIC Visualization Architect V17 Trial
- Download in Customer Support Portal

6AV2107-0PX07-0AA5**6AV2107-0PX07-0AA6****6AV2107-0PX07-0AA7**As download ¹⁾

- SIMATIC Visualization Architect V17
- SIMATIC Visualization Architect V17 Rental

6AV2107-0PX07-0AH5**6AV2107-0PX07-0AH6****Upgrade****SIMATIC Visualization Architect**

Engineering software in the TIA Portal;
software and documentation on CD,
License key on USB flash drive
Class A; 6 languages: en, de, fr, es,
it, zh

V16 -> V17

- As package
- As download ¹⁾
- Email address required for delivery

6AV2107-3PX07-0AA5**6AV2107-3PX07-0AH5****V15/V15.1 -> V16**

- As package
- As download ¹⁾
- Email address required for delivery

6AV2107-3PX06-0AA5**6AV2107-3PX06-0AH5**

¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Technical specifications**SIMATIC Visualization Architect**

Operating system requirements

In accordance with the requirements of the TIA Portal components:

- SIMATIC STEP 7 (TIA Portal)
- SIMATIC WinCC Unified, Professional, Advanced, Comfort, Basic

Supported STEP 7 version

SIMATIC STEP 7 V17

Supported WinCC versions

SIMATIC WinCC V17 Unified, Professional, Advanced, Comfort, Basic

More information

For up-to-date information and availability, see:

<http://www.siemens.com/sivarc>

Overview

The TIA Portal option ProDiag makes it possible to monitor a machine or plant and to intervene in the event of a fault. The monitoring messages which can be generated for the various faults provide specific information on the monitoring mode, location and cause of the fault. Information on troubleshooting can be provided in addition. Plant operators can then not only recognize faults, they can also identify any potential danger in advance and take appropriate countermeasures.

Licensing

- The runtime license for controllers includes 250 supervisions or an unlimited number of supervisions per CPU. From FW 2.0 onwards, the software can run on S7-1500/ET 200SP CPUs regardless of the TIA Portal version.
- For the visualization of the messages, the controls are licensed according to the HMI runtime platforms.

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

- Automatic code generation in the CPU
- Message texts are derived automatically from the information existing in the project
- Simple visualization on the HMI by means of prepared controls

Application

SIMATIC ProDiag is the fully-integrated TIA solution for machine and plant diagnostics. It saves the need for programming diagnostics in the CPU during the engineering phase and provides support for troubleshooting on the HMI.

Function

- Central, cycle-exact time stamping of the fault messages
- Automatic generation of the monitoring logic and message calls
- Automatic updating of the SIMATIC HMI when changing the message configuration for 3 languages
- HMI systems do not have to exit runtime mode in the event of changes
- Directly available in the language editors LAD, FBD, SCL and STL
- Monitoring can be parameterized at a later date on F blocks and know-how-protected blocks
- Central definition of message structure for the project

Ordering data

Article No.

SIMATIC ProDiag for SIMATIC Comfort / Mobile Panels

Controls for SIMATIC WinCC as of V14.

- Package with data storage medium
- Download incl. license key ¹⁾
Email address required for delivery

6AV2107-0UP00-0BB0

6AV2107-0UP00-0BH0

SIMATIC ProDiag for WinCC Runtime Advanced

Controls for SIMATIC WinCC as of V14.

- Package with data storage medium
- Download incl. license key ¹⁾
Email address required for delivery

6AV2107-0UA00-0BB0

6AV2107-0UA00-0BH0

SIMATIC ProDiag for WinCC Runtime Professional

Controls for SIMATIC WinCC as of V14

- Package with data storage medium
- Download incl. license key ¹⁾
Email address required for delivery

6AV2107-0UB00-0BB0

6AV2107-0UB00-0BH0

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

More information

TIA Portal highlights

<http://www.siemens.com/tiaportal>

Software download

For up-to-date information and download availability, see:

<http://www.siemens.com/tia-online-software-delivery>

HMI software

SIMATIC WinCC V7

Introduction

Overview



SIMATIC WinCC V7 SCADA system

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



- 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 V7.5 SP2

Runs on:

- Windows 11 Professional, Enterprise (64-Bit)
- Windows 10 Professional, Enterprise (64-bit)
- Windows 10 Enterprise LTSC (64-bit)
- Windows 2012 Server R2 (64-bit)
- Windows 2016 Server (64-Bit)
- Windows 2019 Server (64-bit)

For WebNavigator Clients and DataMonitor Clients, also:

- Windows 7 SP1 Professional, Enterprise, Ultimate (32-/64-bit)
- Windows 8.1 Professional, Enterprise (32-/64-bit)

Please check the Siemens Online Support compatibility list for details:

<https://support.industry.siemens.com/kompatool/pages/main/index.jsf>

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.

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

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 controls
 - Visual Basic for Applications for individual expansions
 - OPC 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 auxiliary 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.

| WinCC editors | Task or configurable runtime functionality |
|----------------------------|--|
| WinCC Explorer | Central project management for the quick access to all project data and central settings |
| WinCC Graphics Designer | Graphics system for user-defined visualization and operation via pixel-graphic objects |
| WinCC Configuration Studio | <p><u>Alarm Logging</u></p> <p>Signaling system for detecting and archiving events with display and control options based on DIN 19235; freely selectable message classes, message display and logging</p> <p><u>WinCC Tag Logging</u></p> <p>Process archiving for the acquisition, compression and storage of measured values, e.g. presentation in trend and table format as well as further processing</p> <p><u>WinCC User Administrator</u></p> <p>For managing users and authorizations</p> |
| WinCC Report Designer | Reporting and logging system for time and event-controlled documentation of messages, operator inputs and current process data in the form of user reports or project documentation in an arbitrary layout |
| WinCC Global Script | Processing functions with limitless functionality by means of the use of VBScript and ANSI-C |

Interfaces

| | Task or configurable runtime functionality |
|------------------------|---|
| Communication channels | Communication with lower-level controls (SIMATIC protocols, PROFIBUS DP and OPC server included in scope of supply) |
| Standard interfaces | Facilitate the open integration of other Windows applications via WinCC, WinCC OLE DB, ActiveX, OLE, OPC 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**Integration in company-wide solutions (IT and business integration)**

WinCC is based on Microsoft technology, which ensures openness and integration capability. ActiveX and .net controls facilitate technology-specific and industry-specific expansions. Cross-manufacturer communication is also possible since WinCC can be used as an OPC Client and server in addition to accessing current process values and supporting standards such as OPC HDA (Historical Data Access), OPC Alarm & Events, OPC XML Data Access, and OPC UA.

Just as important: Visual Basic for Applications (VBA) is available for user-specific expansions in engineering, and Visual Basic Scripting (VBS) as an easy-to-learn, open, runtime language. If desired, professional application developers can also use ANSI-C. The Open Development Kit (ODK) simplifies access to the API programming interfaces.

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.

Approved communication software

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

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

Integration

Number of connectable controllers

For the number of controllers which can be connected via Industrial Ethernet CP 1613, the following applies with a message frame length of 512 bytes:

| Type of connection | Number of nodes |
|---------------------------------------|-----------------|
| SIMATIC S5 Ethernet Layer 4 + TCP/IP | Up to 60 |
| SIMATIC S7 Protocol Suite | Up to 64 |
| SIMATIC 505 Ethernet Layer 4 + TCP/IP | Up to 60 |
| SIMATIC S7-1200/1500 Channel | Up to 128 |

Via PROFIBUS, a maximum of 8 controllers can be connected with CP 5612, and a maximum of 44 controllers with CP 5613. Industrial Ethernet is recommended when 10 or more PLCs are used.

Mixed operation with different controllers

With their multi-protocol stack, the CP 1613 and CP 5613 communications processors enable the parallel operation of two protocols, such as for the mixed operation of different PLCs, via a single bus cable. WinCC supports the operation of two similar interface boards only in connection with the channels SIMATIC S5 Ethernet Layer 4 (2 x CP 1613), SIMATIC S7 Protocol Suite (2 x CP 1613, 2 x CP 5613) as well as PROFIBUS DP (4 x CP 5613; max. 122 slaves for each CP 5613). In addition to communication via Industrial Ethernet CP 1613 or PROFIBUS CP 5613, one CP 5612/5622 can be used in each case for communication with SIMATIC S7 via MPI.

Client-server communication

Communication between the clients and the server is via TCP/IP protocol. Setting up a separate PC LAN is recommended. For small projects with a correspondingly low incidence of message frames, SIMATIC NET Industrial Ethernet communication can be used for both process communication (WinCC/server ↔ PLC) and PC-PC communication (WinCC/client ↔ WinCC/server).

Channel DLL PROFIBUS DP

In accordance with the PROFIBUS standard, DP/slaves are always permanently assigned to a DP master; i.e. a second WinCC station (DP/master) cannot access the same PLCs (DP/slaves). This means that redundant operation of two WinCC stations is not possible using the PROFIBUS DP connection.

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 the standards:

- OPC Data Access 2.05a
- OPC Data Access 3.00
- OPC UA 1.02
- OPC UA HA 1.20
- OPC UA Alarms and Conditions 1.20
- OPC Historical Alarms and Events 1.10
- OPC XML Data Access 1.01 (Connectivity Pack/ Connectivity Station)
- OPC HDA 1.20 (Connectivity Pack/Connectivity Station)
- OPC A&E 1.10 (Connectivity Pack/Connectivity Station)
- OPC UA Client Data Access
- OPC UA Server Data Access, HDA, Alarm & Condition (Connectivity Pack/Connectivity Station)

Integration**Connection overview**

| Protocol | Description |
|----------------------------------|---|
| SIMATIC S7 | |
| SIMATIC S7 Protocol Suite | Channel DLL for S7 functions via MPI, PROFIBUS or Ethernet Layer 4 + TCP/IP |
| SIMATIC S5 | |
| SIMATIC S5 Ethernet Layer 4 | Channel DLL for S5 Layer 4 communication + TCP/IP |
| SIMATIC S5 Programmer Port AS511 | Channel DLL and driver for serial communication with S5 using AS511 protocol to programmers port |
| SIMATIC S5 Serial 3964R | Channel DLL and driver for serial communication with S5 using RK512 protocol |
| SIMATIC S5 PROFIBUS-FDL | Channel DLL for S5-FDL |
| SIMATIC 505 | |
| SIMATIC 505 Serial | Channel DLL and driver for serial communication with 505 using NITP/TBP protocol to SIMATIC 535/545/555/565/575 |
| SIMATIC 505 Ethernet Layer 4 | Channel DLL for 505 Layer 4 communication |
| SIMATIC 505 TCP/IP | Channel DLL for 505 TCP/IP communication |
| SIMATIC S7-1200, S7-1500 | |
| SIMATIC S7-1200, S7-1500 Channel | Channel DLL for S7-1200 and S7-1500 communication |

| Protocol | Description |
|-------------------------------------|--|
| Third-party controllers | |
| Allen Bradley Ethernet IP | Channel DLL and drivers for communication with Allen Bradley PLCs via Ethernet TCP/IP using Ethernet IP protocol |
| Modbus TCP/IP | Channel DLL and drivers for communication with Modicon PLCs via Ethernet TCP/IP using Modbus TCP/IP protocol |
| Mitsubishi MC TCP/IP | Channel DLL and drivers for communication with Mitsubishi PLCs via Ethernet TCP/IP using Mitsubishi MC TCP/IP protocol |
| Cross-manufacturer | |
| OPC Client for DA, XML DA | Channel DLL for OPC communication; WinCC can acquire data from OPC Server applications |
| OPC Server for DA, XML DA, A&C | Channel DLL for OPC communication; WinCC can acquire data from OPC Client |
| OPC Server for DA, XML DA, A&E, HDA | Server applications for OPC communication; WinCC provides process data to OPC Clients |
| OPC UA Server for DA, HDA, A&C | Server applications for OPC UA communication |
| PROFIBUS DP | Channel DLL for PROFIBUS DP |
| SIMOTION | Channel DLL for SIMOTION |

Application note:

Parallel usage of the OPC Client channel allows, for example, connection to an SNMP OPC Server for visualization of the data contained there. The SNMP OPC Server enables monitoring of any network components (such as switches) that support the SNMP protocol.

Additional information is available under SIMATIC NET Communications Systems/SNMP OPC Server.

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

Integration

PG/PC communication components for SIMATIC (for WinCC V7.5 SP2)

| Industrial Ethernet | SIMATIC S5 Ethernet Layer 4 | SIMATIC S5 TCP/IP | SIMATIC S7 Protocol Suite | SIMATIC 505 Ethernet Layer 4 | SIMATIC 505 TCP/IP ¹⁾ | Article No. |
|---|-----------------------------|-------------------|---------------------------|------------------------------|----------------------------------|-------------------------------|
| WinCC – channel DLL | | | | | | |
| SIMATIC S5 Ethernet Layer 4 Channel DLL for S5 Layer 4 communication + TCP/IP | • | • | | | | Included in the basic package |
| SIMATIC S7 Protocol Suite Channel DLL for S7 functions | | | • | | | Included in the basic package |
| SIMATIC 505 Ethernet Layer 4 Channel DLL for 505 Layer 4 communication | | | | • | | Included in the basic package |
| SIMATIC 505 TCP/IP ¹⁾ Channel DLL for 505 TCP/IP communication | | | | | • | Included in the basic package |
| Communication components for extension of the OS/OP | | | | | | |
| CP 1612 A2 PCI card for connecting a PG/PC to Industrial Ethernet (SOFTNET-S7 or SOFTNET-S7 Lean communication software must be ordered separately) | | • | • | | • | 6GK1161-2AA01 |
| SOFTNET-IE S7 Communication software for S7 functions (max. 64 connections) Version 16 ²⁾³⁾ | | • | • | | | 6GK1704-1CW16-0AA0 |
| SOFTNET-IE S7 Lean Communication software for S7 functions (max. 8 connections) Version 16 ²⁾³⁾ | | • | • | | | 6GK1704-1LW16-0AA0 |
| CP 1623 PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (S7-1613 communication software required) | • | • | • | • | • | 6GK1162-3AA00 |
| CP 1628 PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (HARDNET-IE S7 / S7-1613 communication software required) | • | • | • | • | • | 6GK1162-8AA00 |
| HARDNET-IE S7 / S7-1613 Communication software for S7 functions, OPC, PG/OP communication Version 16 ²⁾³⁾ | • | • | • | • | | 6GK1716-1CB16-0AA0 |

• System interface possible

¹⁾ Via any interface board with NDIS 3.0 interface; no separate communication software required

²⁾ See ordering data for SIMATIC NET upgrade packages

³⁾ SIMATIC NET Version V16 is supplied together with WinCC V7.5 SP2

⁴⁾ SOFTNET-S7 Lean included in scope of supply of WinCC V7.5 SP2

Integration

**PG/PC communication components for SIMATIC
(for WinCC V7.5 SP2)**

| PROFIBUS | SIMATIC S5 PROFIBUS FDL | SIMATIC S7 Protocol Suite | PROFIBUS DP | PROFIBUS FMS | Article No. |
|--|----------------------------|------------------------------|-------------|--------------|-------------------------------|
| WinCC – channel DLL | | | | | |
| SIMATIC S5 PROFIBUS FDL Channel DLL for S5-FDL | • | | | | Included in the basic package |
| SIMATIC S7 Protocol Suite Channel DLL for S7 functions | | • | | | Included in the basic package |
| PROFIBUS DP Channel DLL for PROFIBUS DP | | | • | | Included in the basic package |
| Communication components for extension of the OS/OP | | | | | |
| CP 5612 ²⁾ PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communication software included in WinCC basic package) | | • | | | 6GK1561-2AA00 |
| CP 5622 ²⁾ PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communication software included in WinCC basic package) | | • | | | 6GK1562-2AA00 |
| CP 5711 USB adapter for connecting a PG/PC to PROFIBUS or MPI (communication software included in WinCC basic package) | | • | | | 6GK1571-1AA00 |
| CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (S7-5613, DP-5613 or FMS-5613 communication software required) | • | • | • | • | 6GK1561-3AA02 |
| CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communication software must be ordered separately) | • | • | • | • | 6GK1561-4AA02 |
| CP 5623 PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS or MPI (HARDNET PB S7 or HARDNET PB DP communication software required) | • | • | • | • | 6GK1562-3AA00 |
| HARDNET PB S7 Communication software for S7 functions + FDL | • | • | | | 6GK1713-5CB16-0AA0 |
| HARDNET PB DP Communication software for DP master + FDL | • | | • | | 6GK1713-5DB16-0AA0 |

- System interface possible

¹⁾ See ordering data for SIMATIC NET upgrade package

²⁾ SIMATIC NET Version V16 is supplied together with WinCC V7.5 SP2

HMI software

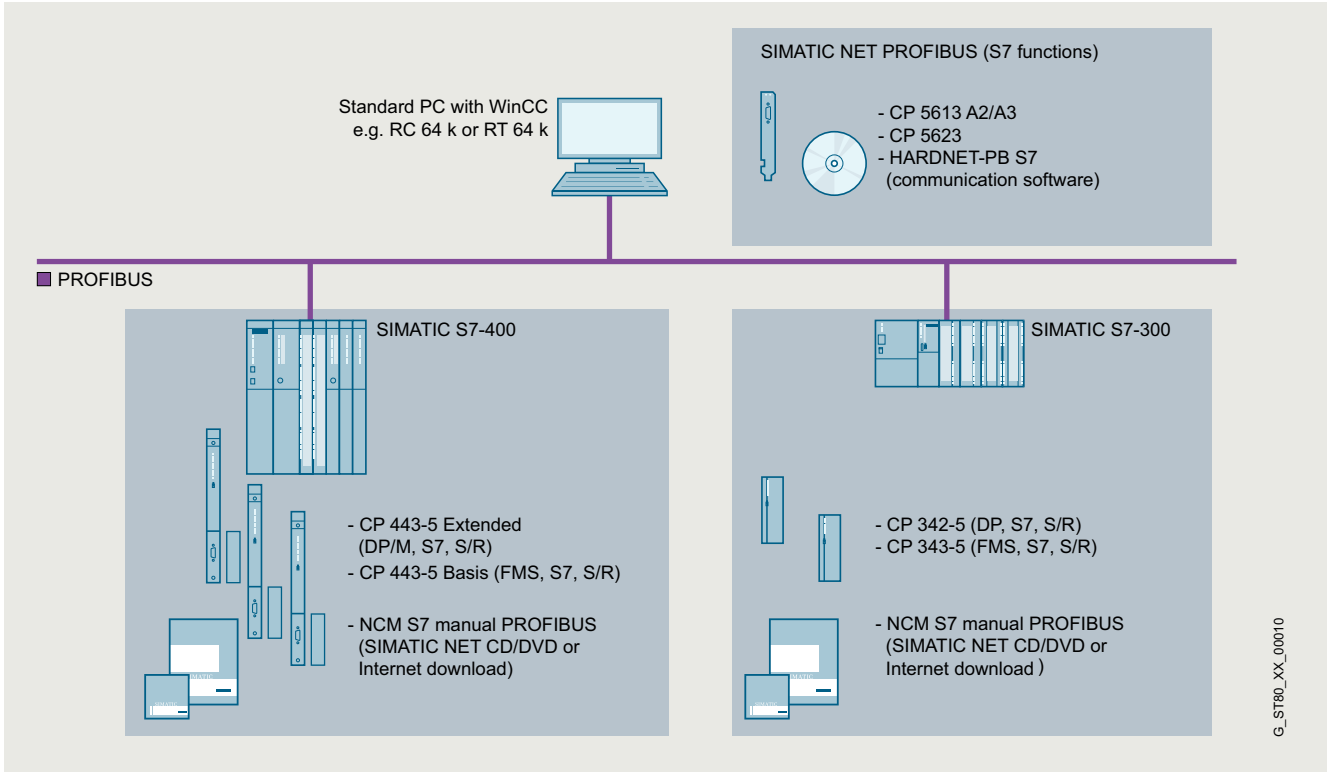
SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

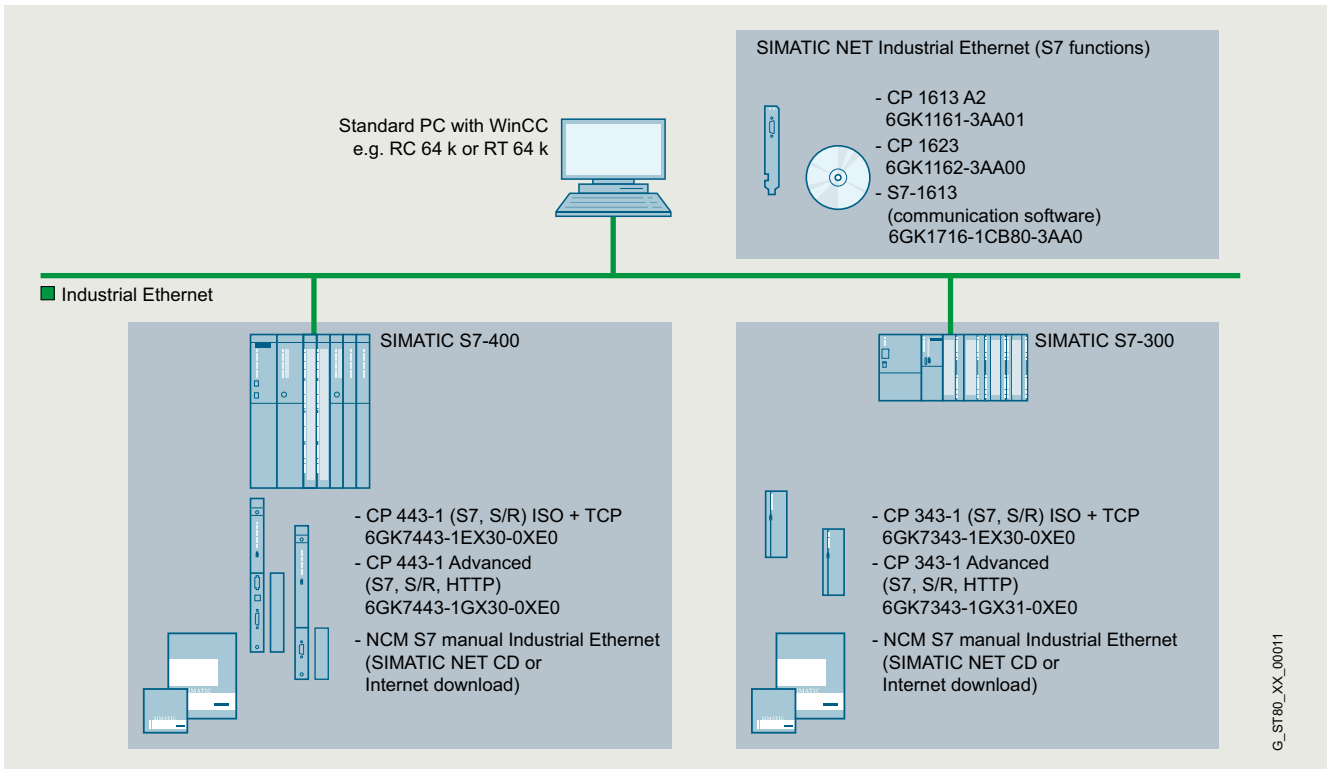
Integration

Communication examples

3

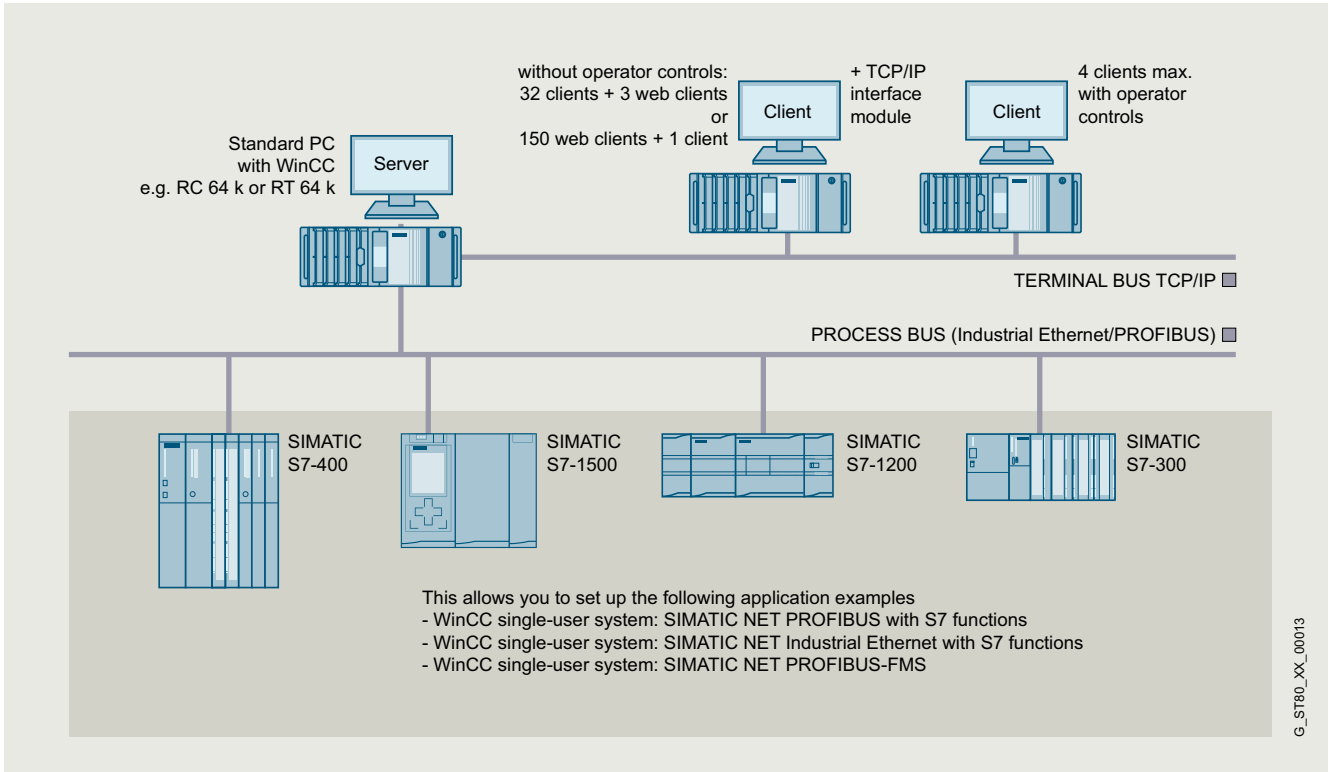


WinCC single-user system: PROFIBUS with S7 communication

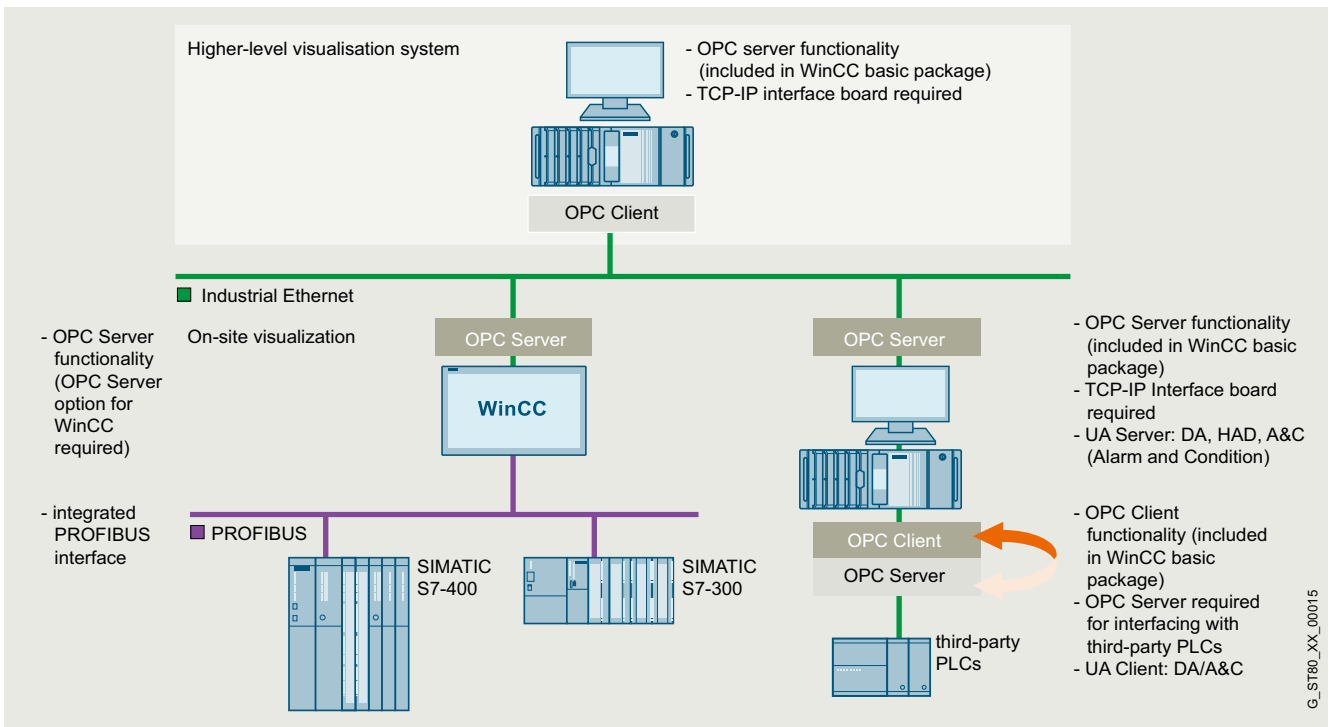


WinCC single-user system: Industrial Ethernet with S7 communication

Integration



WinCC: Multi-user system with operable server



OPC coupling

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

Ordering data

Article No.

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
 - 128 PowerTags (RT 128)
 - 512 PowerTags (RT 512)
 - 2 048 PowerTags (RT 2 048)
 - 8 192 PowerTags (RT 8 192)
 - 65 536 PowerTags (RT 65 536)
 - 102 400 PowerTags (RT 102 400)
 - 153 600 PowerTags (RT 153 600)
 - 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-5AX0
6AV6381-2BC07-5AX0
6AV6381-2BD07-5AX0
6AV6381-2BE07-5AX0
6AV6381-2BH07-5AX0
6AV6381-2BF07-5AX0
6AV6381-2BJ07-5AX0
6AV6381-2BK07-5AX0
6AV6381-2BL07-5AX0

As download

- WinCC RT Client
- 128 PowerTags (RT 128)
- 512 PowerTags (RT 512)
- 2 048 PowerTags (RT 2 048)
- 8 192 PowerTags (RT 8 192)
- 65 536 PowerTags (RT 65 536)
- 102 400 PowerTags (RT 102 400)
- 153 600 PowerTags (RT 153 600)
- 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-5AH0
6AV6381-2BC07-5AH0
6AV6381-2BD07-5AH0
6AV6381-2BE07-5AH0
6AV6381-2BH07-5AH0
6AV6381-2BF07-5AH0
6AV6381-2BJ07-5AH0
6AV6381-2BK07-5AH0
6AV6381-2BL07-5AH0

Complete packages on DVD

- Language versions:
en, de, fr, it, es; with license for
- WinCC RC Client
 - 128 PowerTags (RC 128)
 - 512 PowerTags (RC 512)
 - 2 048 PowerTags (RC 2 048)
 - 8 192 PowerTags (RC 8 192)
 - 65 536 PowerTags (RC 65 536)
 - 102 400 PowerTags (RC 102 400)
 - 153 600 PowerTags (RC 153 600)
 - 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-5AX0
6AV6381-2BM07-5AX0
6AV6381-2BN07-5AX0
6AV6381-2BP07-5AX0
6AV6381-2BS07-5AX0
6AV6381-2BQ07-5AX0
6AV6381-2BT07-5AX0
6AV6381-2BU07-5AX0
6AV6381-2BV07-5AX0

As download

- WinCC RC Client
- 128 PowerTags (RC 128)
- 512 PowerTags (RC 512)
- 2 048 PowerTags (RC 2 048)
- 8 192 PowerTags (RC 8 192)
- 65 536 PowerTags (RC 65 536)
- 102 400 PowerTags (RC 102 400)
- 153 600 PowerTags (RC 153 600)
- 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-5AH0
6AV6381-2BM07-5AH0
6AV6381-2BN07-5AH0
6AV6381-2BP07-5AH0
6AV6381-2BS07-5AH0
6AV6381-2BQ07-5AH0
6AV6381-2BT07-5AH0
6AV6381-2BU07-5AH0
6AV6381-2BV07-5AH0

V7.5 SP2 ASIA

Runtime Packages on DVD

- Language/script versions:
en, zh-CN, zh-TW, ko, ja;
with license for
- WinCC RT Client
 - 128 PowerTags (RT 128)
 - 512 PowerTags (RT 512)
 - 2 048 PowerTags (RT 2 048)
 - 8 192 PowerTags (RT 8 192)
 - 65 536 PowerTags (RT 65 536)
 - 102 400 PowerTags (RT 102 400)
 - 153 600 PowerTags (RT 153 600)
 - 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-5AV0
6AV6381-2BC07-5AV0
6AV6381-2BD07-5AV0
6AV6381-2BE07-5AV0
6AV6381-2BH07-5AV0
6AV6381-2BF07-5AV0
6AV6381-2BJ07-5AV0
6AV6381-2BK07-5AV0
6AV6381-2BL07-5AV0

Complete packages on DVD

- Language versions:
en, zh-CN, zh-TW, ko, ja;
with license for
- WinCC RC Client
 - 128 PowerTags (RC 128)
 - 512 PowerTags (RC 512)
 - 2 048 PowerTags (RC 2 048)
 - 8 192 PowerTags (RC 8 192)
 - 65 536 PowerTags (RC 65 536)
 - 102 400 PowerTags (RC 102 400)
 - 153 600 PowerTags (RC 153 600)
 - 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-5AV0
6AV6381-2BM07-5AV0
6AV6381-2BN07-5AV0
6AV6381-2BP07-5AV0
6AV6381-2BS07-5AV0
6AV6381-2BQ07-5AV0
6AV6381-2BT07-5AV0
6AV6381-2BU07-5AV0
6AV6381-2BV07-5AV0

V7.5 SP2 PowerPacks

For upgrading from:

Runtime Packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD07-5AX0
6AV6371-2BG07-5AX0
6AV6371-2BM07-5AX0
6AV6371-2BN07-5AX0
6AV6371-2BP07-5AX0
6AV6371-2BQ07-5AX0
6AV6371-2BR07-5AX0

As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD07-5AJ0
6AV6371-2BG07-5AJ0
6AV6371-2BM07-5AJ0
6AV6371-2BN07-5AJ0
6AV6371-2BP07-5AJ0
6AV6371-2BQ07-5AJ0
6AV6371-2BR07-5AJ0

Complete packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD17-5AX0
6AV6371-2BG17-5AX0
6AV6371-2BM17-5AX0
6AV6371-2BN17-5AX0
6AV6371-2BP17-5AX0
6AV6371-2BQ17-5AX0
6AV6371-2BR17-5AX0

As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD17-5AJ0
6AV6371-2BG17-5AJ0
6AV6371-2BM17-5AJ0
6AV6371-2BN17-5AJ0
6AV6371-2BP17-5AJ0
6AV6371-2BQ17-5AJ0
6AV6371-2BR17-5AJ0

| Ordering data | Article No. | Article No. | |
|---|--|--|---|
| V7.5 SP2 archives <ul style="list-style-type: none"> • 1 500 archive tags (countable) • 5 000 archive tags (countable) • 10 000 archive tags (countable) • 30 000 archive tags (countable) <u>As download</u> <ul style="list-style-type: none"> • 1 500 archive tags (countable) • 5 000 archive tags (countable) • 10 000 archive tags (countable) • 30 000 archive tags (countable) | 6AV6371-1DQ17-5AX0 6AV6371-1DQ17-5BX0 6AV6371-1DQ17-5CX0 6AV6371-1DQ17-5EX0 | For upgrading the RC version <ul style="list-style-type: none"> • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 • From V7.2/7.3 ASIA to V7.5 SP2 ASIA ²⁾ • From V7.4 ASIA to V7.5 SP2 ASIA ²⁾ <u>As download</u> <ul style="list-style-type: none"> • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 | 6AV6381-2AB07-5AX3 6AV6381-2AB07-5AX4 6AV6381-2AB07-5AV3 6AV6381-2AB07-5AV4 6AV6381-2AB07-5AK3 6AV6381-2AB07-5AK4 |
| SIMATIC WinCC software packages SIMATIC WinCC V7.5 SP2 Runtime <ul style="list-style-type: none"> • WinCC RT Client • 128 PowerTags • 512 PowerTags • 2 048 PowerTags • 8 192 PowerTags • 65 536 PowerTags | 6AV6382-2AA07-5AX0 6AV6382-2CA07-5AX0 6AV6382-2DA07-5AX0 6AV6382-2EA07-5AX0 6AV6382-2HA07-5AX0 6AV6382-2FA07-5AX0 | For upgrading the Client RT version <ul style="list-style-type: none"> • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 • From V7.2/7.3 ASIA to V7.5 SP2 ASIA • From V7.5 ASIA to V7.5 SP2 ASIA <u>As download</u> <ul style="list-style-type: none"> • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 | 6AV6381-2CA07-5AX3 6AV6381-2CA07-5AX4 6AV6381-2CA07-5AV3 6AV6381-2CA07-5AV4 6AV6381-2CA07-5AK3 6AV6381-2CA07-5AK4 |
| SIMATIC WinCC V7.5 SP2 Runtime ASIA <ul style="list-style-type: none"> • WinCC RT Client • 128 PowerTags • 512 PowerTags • 2 048 PowerTags • 8 192 PowerTags • 65 536 PowerTags | 6AV6382-2AA07-5AV0 6AV6382-2CA07-5AV0 6AV6382-2DA07-5AV0 6AV6382-2EA07-5AV0 6AV6382-2HA07-5AV0 6AV6382-2FA07-5AV0 | For upgrading the Client RC version <ul style="list-style-type: none"> • From V7.2/7.3 to V7.4 SP2 • From V7.4 to V7.5 SP2 • From V7.2/7.3 ASIA to V7.5 SP2 ASIA • From V7.4 ASIA to V7.5 SP2 ASIA <u>As download</u> <ul style="list-style-type: none"> • From V7.2/7.3 to V7.4 SP2 • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 | 6AV6381-2CB07-5AX3 6AV6381-2CB07-5AX4 6AV6381-2CB07-5AV3 6AV6381-2CB07-5AV4 6AV6381-2CB07-4AK3 6AV6381-2CB07-5AK3 6AV6381-2CB07-5AK4 |
| SIMATIC WinCC Upgrades/ Software Update Service SIMATIC WinCC V7.5 SP2 Upgrade ¹⁾ | | SIMATIC WinCC Software Update Service (SUS) ^{3) 4) 5)} | |
| For upgrading the RT version <ul style="list-style-type: none"> • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 • From V7.2/7.3 ASIA to V7.5 SP2 ASIA ²⁾ • From V7.4 ASIA to V7.5 SP2 ASIA ²⁾ <u>As download</u> <ul style="list-style-type: none"> • From V7.2/7.3 to V7.5 SP2 • From V7.4 to V7.5 SP2 | 6AV6381-2AA07-5AX3 6AV6381-2AA07-5AX4 6AV6381-2AA07-5AV3 6AV6381-2AA07-5AV4 6AV6381-2AA07-5AK3 6AV6381-2AA07-5AK4 | SIMATIC WinCC V7 Update Software Update Service for WinCC basic software and options: <ul style="list-style-type: none"> • 1 license • 3 licenses • 10 licenses <u>As download</u> <ul style="list-style-type: none"> • 1 license • 3 licenses • 10 licenses | 6AV6381-1AA00-0AX5 6AV6381-1AA00-0BX5 6AV6381-1AA00-0CX5 6AV6381-1KA00-0AX5 6AV6381-1KA00-0BX5 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

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

Ordering data

Article No.

Article No.

SIMATIC WinCC system software

V7.4 SP1

Runtime Packages on DVD

Incl. 512 archive tags each;
language/script versions: en, de, fr,
it, es; with license for

- WinCC RT Client
- 128 PowerTags (RT 128)
- 512 PowerTags (RT 512)
- 2 048 PowerTags (RT 2 048)
- 8 192 PowerTags (RT 8 192)
- 65 536 PowerTags (RT 65 536)
- 102 400 PowerTags (RT 102 400)
- 153 600 PowerTags (RT 153 600)
- 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-4AX0
6AV6381-2BC07-4AX0
6AV6381-2BD07-4AX0
6AV6381-2BE07-4AX0
6AV6381-2BH07-4AX0
6AV6381-2BF07-4AX0
6AV6381-2BJ07-4AX0
6AV6381-2BK07-4AX0
6AV6381-2BL07-4AX0

As download

- WinCC RT Client
- 128 PowerTags (RT 128)
- 512 PowerTags (RT 512)
- 2 048 PowerTags (RT 2 048)
- 8 192 PowerTags (RT 8 192)
- 65 536 PowerTags (RT 65 536)
- 102 400 PowerTags (RT 102 400)
- 153 600 PowerTags (RT 153 600)
- 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-4AH0
6AV6381-2BC07-4AH0
6AV6381-2BD07-4AH0
6AV6381-2BE07-4AH0
6AV6381-2BH07-4AH0
6AV6381-2BF07-4AH0
6AV6381-2BJ07-4AH0
6AV6381-2BK07-4AH0
6AV6381-2BL07-4AH0

Complete packages on DVD

Language versions: en, de, fr, it, es;
with license for

- WinCC RC Client
- 128 PowerTags (RC 128)
- 512 PowerTags (RC 512)
- 2 048 PowerTags (RC 2 048)
- 8 192 PowerTags (RC 8 192)
- 65 536 PowerTags (RC 65 536)
- 102 400 PowerTags (RC 102 400)
- 153 600 PowerTags (RC 153 600)
- 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-4AX0
6AV6381-2BM07-4AX0
6AV6381-2BN07-4AX0
6AV6381-2BP07-4AX0
6AV6381-2BS07-4AX0
6AV6381-2BQ07-4AX0
6AV6381-2BT07-4AX0
6AV6381-2BU07-4AX0
6AV6381-2BV07-4AX0

As download

- WinCC RC Client
- 128 PowerTags (RC 128)
- 512 PowerTags (RC 512)
- 2 048 PowerTags (RC 2 048)
- 8 192 PowerTags (RC 8 192)
- 65 536 PowerTags (RC 65 536)
- 102 400 PowerTags (RC 102 400)
- 153 600 PowerTags (RC 153 600)
- 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-4AH0
6AV6381-2BM07-4AH0
6AV6381-2BN07-4AH0
6AV6381-2BP07-4AH0
6AV6381-2BS07-4AH0
6AV6381-2BQ07-4AH0
6AV6381-2BT07-4AH0
6AV6381-2BU07-4AH0
6AV6381-2BV07-4AH0

V7.4 SP1 ASIA

Runtime Packages on DVD

Incl. 512 archive tags each;
language/script versions: en, zh-
CN, zh-TW, ko, ja; with license for

- WinCC RT Client
- 128 PowerTags (RT 128)
- 512 PowerTags (RT 512)
- 2 048 PowerTags (RT 2 048)
- 8 192 PowerTags (RT 8 192)
- 65 536 PowerTags (RT 65 536)
- 102 400 PowerTags (RT 102 400)
- 153 600 PowerTags (RT 153 600)
- 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-4AV0
6AV6381-2BC07-4AV0
6AV6381-2BD07-4AV0
6AV6381-2BE07-4AV0
6AV6381-2BH07-4AV0
6AV6381-2BF07-4AV0
6AV6381-2BJ07-4AV0
6AV6381-2BK07-4AV0
6AV6381-2BL07-4AV0

Complete packages on DVD

Language versions: en, zh-CN,
zh-TW, ko, ja; with license for

- WinCC RC Client
- 128 PowerTags (RC 128)
- 512 PowerTags (RC 512)
- 2 048 PowerTags (RC 2 048)
- 8 192 PowerTags (RC 8 192)
- 65 536 PowerTags (RC 65 536)
- 102 400 PowerTags (RC 102 400)
- 153 600 PowerTags (RC 153 600)
- 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-4AV0
6AV6381-2BM07-4AV0
6AV6381-2BN07-4AV0
6AV6381-2BP07-4AV0
6AV6381-2BS07-4AV0
6AV6381-2BQ07-4AV0
6AV6381-2BT07-4AV0
6AV6381-2BU07-4AV0
6AV6381-2BV07-4AV0

V7.4 SP1 PowerPacks

For upgrading from:

Runtime Packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD07-4AX0
6AV6371-2BG07-4AX0
6AV6371-2BM07-4AX0
6AV6371-2BN07-4AX0
6AV6371-2BP07-4AX0
6AV6371-2BQ07-4AX0
6AV6371-2BR07-4AX0

As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD07-4AJ0
6AV6371-2BG07-4AJ0
6AV6371-2BM07-4AJ0
6AV6371-2BN07-4AJ0
6AV6371-2BP07-4AJ0
6AV6371-2BQ07-4AJ0
6AV6371-2BR07-4AJ0

Complete packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD17-4AX0
6AV6371-2BG17-4AX0
6AV6371-2BM17-4AX0
6AV6371-2BN17-4AX0
6AV6371-2BP17-4AX0
6AV6371-2BQ17-4AX0
6AV6371-2BR17-4AX0

As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD17-4AJ0
6AV6371-2BG17-4AJ0
6AV6371-2BM17-4AJ0
6AV6371-2BN17-4AJ0
6AV6371-2BP17-4AJ0
6AV6371-2BQ17-4AJ0
6AV6371-2BR17-4AJ0

| Ordering data | Article No. | Article No. |
|---|--|---|
| V7.4 SP1 archives <ul style="list-style-type: none"> • 1 500 archive tags (countable) • 5 000 archive tags (countable) • 10 000 archive tags (countable) • 30 000 archive tags (countable) <u>As download</u> <ul style="list-style-type: none"> • 1 500 archive tags (countable) • 5 000 archive tags (countable) • 10 000 archive tags (countable) • 30 000 archive tags (countable) | 6AV6371-1DQ17-4AX0 6AV6371-1DQ17-4BX0 6AV6371-1DQ17-4CX0 6AV6371-1DQ17-4EX0 | SIMATIC WinCC V7.5 SP1 communication |
| SIMATIC WinCC Upgrades/ Software Update Service SIMATIC WinCC V7.4 SP1 Upgrade ¹⁾ For upgrading the RT version <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 • From V7.X ASIA to V7.4 SP1 ASIA ²⁾ <u>As download</u> <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 | 6AV6381-2AA07-4AX3 6AV6381-2AA07-4AV3 | Communication via Industrial Ethernet/PROFIBUS CP 1612 A2 PCI card (32-bit) for connection of a PG/PC to Industrial Ethernet (10/100/1 000 Mbps) with RJ45 connection via SOFTNET S7 and SOFTNET PG. 6GK1161-2AA01 |
| For upgrading the RC version <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 • From V7.X ASIA to V7.4 SP1 ASIA ²⁾ <u>As download</u> <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 | 6AV6381-2AB07-4AX3 6AV6381-2AB07-4AV3 | 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 <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher • Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005 6GK1704-1CW16-0AA0 6GK1704-1CW00-3AE0 6GK1704-1CW00-3AE1 |
| For upgrading the Client RT version <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 • From V7.X ASIA to V7.4 SP1 ASIA <u>As download</u> <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 | 6AV6381-2CA07-4AX3 6AV6381-2CA07-4AV3 | 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 <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher • Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005 |
| For upgrading the Client RC version <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 • From V7.X ASIA to V7.4 SP1 ASIA <u>As download</u> <ul style="list-style-type: none"> • From V7.X to V7.4 SP1 | 6AV6381-2CB07-4AX3 6AV6381-2CB07-4AV3 | CP 1623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately) 6GK1162-3AA00 |
| SIMATIC WinCC Software Update Service (SUS) ^{3) 4) 5)} SIMATIC WinCC V7 Update Software Update Service for WinCC basic software and options: <ul style="list-style-type: none"> • 1 license • 3 licenses • 10 licenses <u>As download</u> <ul style="list-style-type: none"> • 1 license • 3 licenses • 10 licenses | 6AV6381-1AA00-0AX5 6AV6381-1AA00-0BX5 6AV6381-1AA00-0CX5 | 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 <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher • Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005 6GK1716-1CB16-0AA0 6GK1716-1CB00-3AE0 6GK1716-1CB00-3AE1 |

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

²⁾ Upgrading from V7.X RT/RC 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

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

Ordering data

Article No.

SIMATIC WinCC V7.5 SP2 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
- Upgrade package for SIMATIC NET Edition 2006 or higher
- Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005

6GK1713-5CB16-0AA0

6GK1713-5CB00-3AE0

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
- Upgrade package for SIMATIC NET Edition 2006 or higher
- Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005

6GK1713-5DB16-0AA0

6GK1713-5DB00-3AE0

6GK1713-5DB00-3AE1

Article No.

SIMATIC WinCC V7.4 SP1 communication

Communication via Industrial Ethernet/PROFIBUS

CP 1612 A2

PCI card (32-bit) for connection of a PG/PC to Industrial Ethernet (10/100/1 000 Mbps) with RJ45 connection via SOFTNET S7 and SOFTNET PG. Windows 8.1 and Windows 2012 Server are not supported.

6GK1161-2AA01

SOFTNET-IE S7 Version 14 SP1

SOFTNET-IE S7 V14 software for S7, S5-comp. communication, OPC; PG/OP communication, configuration software, up to 64 conn.; Floating License; runtime software, software and electr. manual; on DVD; license key on USB flash drive; Class A; 2 languages (en, de); for 32/64-bit: Windows 7 SP1 Prof./Ultimate, 64-bit: Windows 8.1Pro; Windows 10 Server 2008 R2 SP1, 2012 R2CP 1612 (no Win 8.1, Win 10 Server 2012, R2)

- Single License for 1 installation
- Upgrade package for SIMATIC NET Edition 2006 or higher
- Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005

6GK1704-1CW14-0AA0

6GK1704-1CW00-3AE0

6GK1704-1CW00-3AE1

SOFTNET-IE S7 Lean Version V14 SP1

(license included in scope of supply of WinCC V7.4 SP1)

SIMATIC NET SOFTNET-IE S7 LEAN V14; SW f. S7, S5-comp. comm., OPC PG/OP comm., config. SW, up to 8 conn. Floating License; Runtime Software, SW and electr. manual on DVD; license key on USB flash drive; Class A; 2 languages (en, de); for 32/64-bit: Win 7 SP1 Prof/Ult, 64-bit: Win 8.1 PRO; Windows 10 Server 2008 R2 SP1, 2012 R2; CP 1612 (no Win 8.1, Win 10, Server 2012, R2)

- Single License for 1 installation
- Upgrade package for SIMATIC NET Edition 2006 or higher
- Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005

6GK1704-1LW14-0AA0

6GK1704-1LW00-3AE0

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

CP 1628

PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (communications software must be ordered separately)

6GK1162-8AA00

| Ordering data | Article No. | Article No. | |
|---|---|--|---|
| HARDNET IE S7 V14 Software for S7-compatible 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 <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher • Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005 | 6GK1716-1CB14-0AA0 6GK1716-1CB00-3AE0 6GK1716-1CB00-3AE1 | HARDNET PB S7 V14 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 <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher • Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005 | 6GK1713-5DB14-0AA0 6GK1713-5CB00-3AE0 6GK1713-5CB00-3AE1 |
| 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 DP V14 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 <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher • Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005 | 6GK1713-5DB14-0AA0 6GK1713-5DB00-3AE0 6GK1713-5DB00-3AE1 |
| | | FMS 5613 V7.1 SP6 (Edition 2008 + SP6) Software for FMS protocol 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 A2, CP 5614 A2, CP 5623; English/German <ul style="list-style-type: none"> • Single License for 1 installation • Upgrade package for SIMATIC NET Edition 2006 or higher | 6GK1713-5FB71-3AA0 6GK1713-5FB00-3AE0 |

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 basic software

Technical specifications

| Type | SIMATIC WinCC V7.5 SP2 |
|---------------------------------|---|
| PC hardware requirements | |
| Processor type | |
| • Minimum | Single-user station/server: Dual-core; 2.5 GHz |
| • Recommended | Client: Dual-core; 2.5 GHz 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 |
| • Recommended | Windows Server 2012 R2 / Windows Server 2016 / Windows Server 2019 Server: 4 GB Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 4 GB Windows Server 2012 R2 / Windows Server 2016 / Windows Server 2019 Server: 8 GB |
| Graphics resolution | |
| • Minimum | 800 x 600 |
| • Recommended | 1 920 x 1 080 |
| Hard disk | |
| • Minimum | Single-user station/server: 80 GB Client: 20 GB |
| • Recommended | WebClient/DataMonitor Client: 5 GB Single-user station/server: 160 GB Client: 40 GB WebClient/DataMonitor Client: 10 GB |
| DVD-ROM/USB interface | For software installation and license transfer |

| Type | SIMATIC WinCC V7.5 SP2 |
|---|--|
| Functionality/quantity structure | |
| Number of messages | 150 000 |
| • Message text (number of characters) | 10 x 256 |
| • Message archive | System-limited ¹⁾ |
| • Process values per message | 10 |
| • Constant load of messages, max. | Server/single-user station: 10/s |
| • Message burst, max. | Server/single-user station: 2 000/10 s every 5 min |
| Archive | |
| • Archive data points | Max. 80 000 per server ²⁾ |
| • Archive types | Short-term archive with and without long-term archiving |
| • Data storage format | Microsoft SQL Server 2016 SP2 |
| • Measured values per second | Server/single-user station: up to 30 000/s ⁴⁾ |
| User archive | |
| • Total archives | No limit |
| • Fields per user archive | 500 (maximum number of 1 000 000 fields) |
| • Data records per user archive | 10 000 |
| • User archive views | No limit |
| Graphics system | |
| • Number of screens | System-limited ¹⁾ |
| • Number of objects per screen | System-limited ¹⁾ |
| • Number of controllable fields per screen | System-limited ¹⁾ |
| PowerTags | 256 K ³⁾ |
| Trends | |
| • Trend views per picture | 25 |
| • Trends per trend view | 80 |
| User administration | |
| • User groups | 128 |
| • Number of users | 128 |
| • Authorization groups | 999 |
| Configuration languages | 5 European (en, de, fr, it, es), 4 Asian (zh-CN, zh-TW, ko, ja) |
| Protocols | |
| • Message sequence reports (simultaneously) | 1 per server/single-user station |
| • Message archive reports (simultaneously) | 3 |
| • User reports | System-limited ¹⁾ |
| • Report lines per group | 66 |
| • Tags per report | 300 ⁵⁾ |
| Multi-user system | |
| • Server | 18 |
| • Uni Client (without its own project) | Max. 64 |
| • Multi-Client (with its own project) | Max. 50 |

¹⁾ Dependent on available storage space

²⁾ Dependent on number of licensed archive tags (ArchiveTags)

³⁾ Dependent on the number of licensed PowerTags

⁴⁾ Dependent on system performance, especially of hard disk (SSD/RAID recommended)

⁵⁾ Number of variables per report depends on process communication performance

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.

More information is available on the Internet at:

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

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>

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

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
For operator control and monitoring of plants, independent of platforms and 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/UserArchives
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/SES (Sequence Execution System)
Scalable step sequence control for sequence-based processes
- 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
- WinCC/Connectivity Station
Gateway to WinCC server data via OPC HDA, OPC A&E, OPC XML server, 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

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

SIMATIC TeleControl

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 |
|-----------------------------------|---|--------------|--|----------------------------|--|--|---|
| | | Serial | Ethernet TCP/IP | Serial | Ethernet TCP/IP | Serial | Ethernet TCP/IP |
| 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 | | - | - | • | • | • | • |

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

SIMATIC TeleControl

Ordering data

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"

Article No.

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
- 12 stations
- 256 stations
- unlimited

6DL5002-7AA47-0XA0
6DL5002-7AB47-0XA0
6DL5002-7AE47-0XA0
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>

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

WinCC/Audit & WinCC/ChangeControl

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** includes the full functionality of **WinCC/ChangeControl** and is also used for **tracing all operations**. All operations are automatically recorded in the Audit Trail at RT.
- 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

WinCC Audit complete licenses include the runtime and configuration licenses (RC).

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.

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
- 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 logging WinCC projects
- Document management for automatic archiving and versioning of WinCC plant mimics, scripts, reports, and project-specific documents, and the recording of the associated change information
- The audit viewer for visualizing, exporting and printing WinCC and WinCC flexible Audit Trails. 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 system images, 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.

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

Function

The Audit Trail data is visualized from WinCC, as well as from WinCC flexible 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 user 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 user 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

For the configuration of the Audit Trail incl. RT

- WinCC V7.5 SP2
- WinCC V7.4 SP1

6AV6371-1DV27-5AX0
6AV6371-1DV27-4AX0

As download

- WinCC V7.5 SP2
- WinCC V7.4 SP1

6AV6371-1HV27-5AX0
6AV6371-1HV27-4AX0

WinCC/Audit

WinCC/Audit RC

For the configuration of the Audit Trail incl. RT

- WinCC V7.5 SP2
- WinCC V7.4 SP1

6AV6371-1DV17-5AX0
6AV6371-1DV17-4AX0

As download

- WinCC V7.5 SP2
- WinCC V7.4 SP1

6AV6371-1HV17-5AX0
6AV6371-1HV17-4AX0

WinCC/Audit RT

Creation of Audit Trails in RT

- WinCC V7.5 SP2
- WinCC V7.4 SP1

6AV6371-1DV07-5AX0
6AV6371-1DV07-4AX0

As download

- WinCC V7.5 SP2
- WinCC V7.4 SP1

6AV6371-1HV07-5AX0
6AV6371-1HV07-4AX0

Upgrades

V7.4 to V7.5 SP2

- For WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

6AV6371-1DV07-5BX4
6AV6371-1DV17-5BX4

As download

- WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

6AV6371-1KV07-5BX4
6AV6371-1KV17-5BX4

V7.2/7.3 to V7.5 SP2

- For WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

6AV6371-1DV07-5BX3
6AV6371-1DV17-5BX3

As download

- WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

6AV6371-1KV07-5BX3
6AV6371-1KV17-5BX3

V7.x to V7.4 SP1

- For WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

6AV6371-1DV07-4BX3
6AV6371-1DV17-4BX3

As download

- WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

6AV6371-1KV07-4BX3
6AV6371-1KV17-4BX3

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>

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

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 V7.5 SP2
- WinCC V7.4 ¹⁾

6AV6372-1DC07-5AX0
6AV6372-1DC07-4AX0

As download

- WinCC V7.5 SP2
- WinCC V7.4 ¹⁾

6AV6372-1HC07-5AX0
6AV6372-1HC07-4AX0

Upgrade

- V7.4 -> V7.5 SP2
- V7.2/7.3 -> V7.5 SP1
- V7.x -> V7.4 ¹⁾

6AV6372-1DC07-5AX4
6AV6372-1DC07-5AX3
6AV6372-1DC07-4AX3

As download

- V7.4 -> V7.5 SP2
- V7.2/7.3 -> V7.5 SP2
- V7.x -> V7.4 ¹⁾

6AV6372-1KC07-5AX4
6AV6372-1KC07-5AX3
6AV6372-1KC07-4AX3

¹⁾ Also compatible with WinCC V7.4 SP1, except Windows Server 2016.

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 release 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 features integrated OPC Data Access and OPC XML DA servers for access to all online values in the system and makes open interfaces available for access to historical WinCC data.

- The Connectivity Pack includes OPC XML DA 1.00, OPC HDA 1.20 (Historical Data Access), OPC A&E 1.10 (Alarm & Events) as well as a WinCC OLE DB interface, which also gives remote computers without installed WinCC access to WinCC archive and alarm data.
- The function of the OPC servers (XML DA, HDA and A&E) and the OPC UA servers (DA, HDA, AC) is assured by the WinCC/Connectivity Pack. In order to access data in the database via WinCC OLE DB/OLE DB, you will also need a license for the WinCC/Connectivity Pack.

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 following table shows the rules:

| | New: WinCC-independent installation at Connectivity Station | Conventional installation: OPC with WinCC |
|--------------------|--|--|
| OPC DA | "WinCC Connectivity Station" license | No license required |
| OPC HDA | "WinCC Connectivity Station" license | "WinCC Connectivity Pack" license |
| OPC A&E | "WinCC Connectivity Station" license | "WinCC Connectivity Pack" license |
| OPC UA DA | | "WinCC OPC UA HDA / AC Connectivity Pack" license |

The Connectivity Station is planned over NCM PC Manager or SIMATIC Manager. In versions 7.0 and higher, the Connectivity Station does not run as a service.

Additional information is available 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

- 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 (e.g., via VisualBasic)

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.

The WinCC OPC XML DA server makes cross-platform communication between Windows and non-Windows systems possible, even via the Internet. This enables read and write WinCC online values (external and internal WinCC variables) to be exchanged with non-Siemens systems.

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.

The WinCC Connectivity Station was designed as a stand-alone gateway to WinCC server data. It supports access to WinCC server data over the OPC channels described as well as those for process values (not alarms) over OLE DB. Access to WinCC data is transparent, i.e. independent of which server of a redundant pair is active or whether data have already been transferred to the central archive server.

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 DA server: tags, e.g. process values
- OPC HDA server: archived process values
- OPC A&E server: alarms

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

WinCC/Connectivity Pack & WinCC Connectivity Station**Ordering data****Article No.****WinCC/Connectivity Pack & WinCC/Connectivity Station****V7.5 SP2 for WinCC V7.5 SP2****Basic Packages**

- WinCC/Connectivity Pack V7.5 SP2 ¹⁾
- WinCC/Connectivity Station V7.5 SP2 ¹⁾

6AV6371-1DR07-5AX0**6AV6371-1DR17-5AX0**As download

- WinCC/Connectivity Pack V7.5 SP2
- WinCC/Connectivity Station V7.5 SP2

6AV6371-1HR07-5AX0**6AV6371-1HR17-5AX0****V7.4 SP1 for WinCC V7.4 SP1****Basic Packages**

- WinCC/Connectivity Pack V7.4 SP1 ¹⁾
- WinCC/Connectivity Station V7.4 SP1 ¹⁾

6AV6371-1DR07-4AX0**6AV6371-1DR17-4AX0**As download

- WinCC/Connectivity Pack V7.4 SP1
- WinCC/Connectivity Station V7.4 SP1

6AV6371-1HR07-4AX0**6AV6371-1HR17-4AX0**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 Event Notifier 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 e-mail 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

Article No.

WinCC/Event Notifier

- For WinCC 7.5 SP2
- For WinCC V7.4 ¹⁾

6AV6372-1DD07-5AX0
6AV6372-1DD07-4AX0

As download

- For WinCC V7.5 SP2
- For WinCC V7.4 ¹⁾

6AV6372-1HD07-5AX0
6AV6372-1HD07-4AX0

Upgrade

- From V7.4 -> 7.5 SP2

6AV6372-1DC07-5AX4

As download

- From V7.4 -> 7.5 SP2

6AV6372-1KC07-5AX4

¹⁾ Also compatible with WinCC V7.4 SP1, except Windows Server 2016.

More information

You can find more information at:

<https://new.siemens.com/global/en/products/automation/industry-software/automation-software/scada/simatic-wincc-v7/wincc-v7-options.html>

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 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)
- As of WinCC version 7.2, the Open Development Kit includes the previous WinCC/IndustrialX option

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 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

SIMATIC WinCC/ODK

Open Development Kit, option for SIMATIC WinCC

- V7.4 ¹⁾
- V7.3 SE

As download

- V7.4 ¹⁾
- V7.3 SE

¹⁾ Also compatible with WinCC V7.4 SP1

Article No.

6AV6371-1CC07-4AX0
6AV6371-1CC07-3AX0

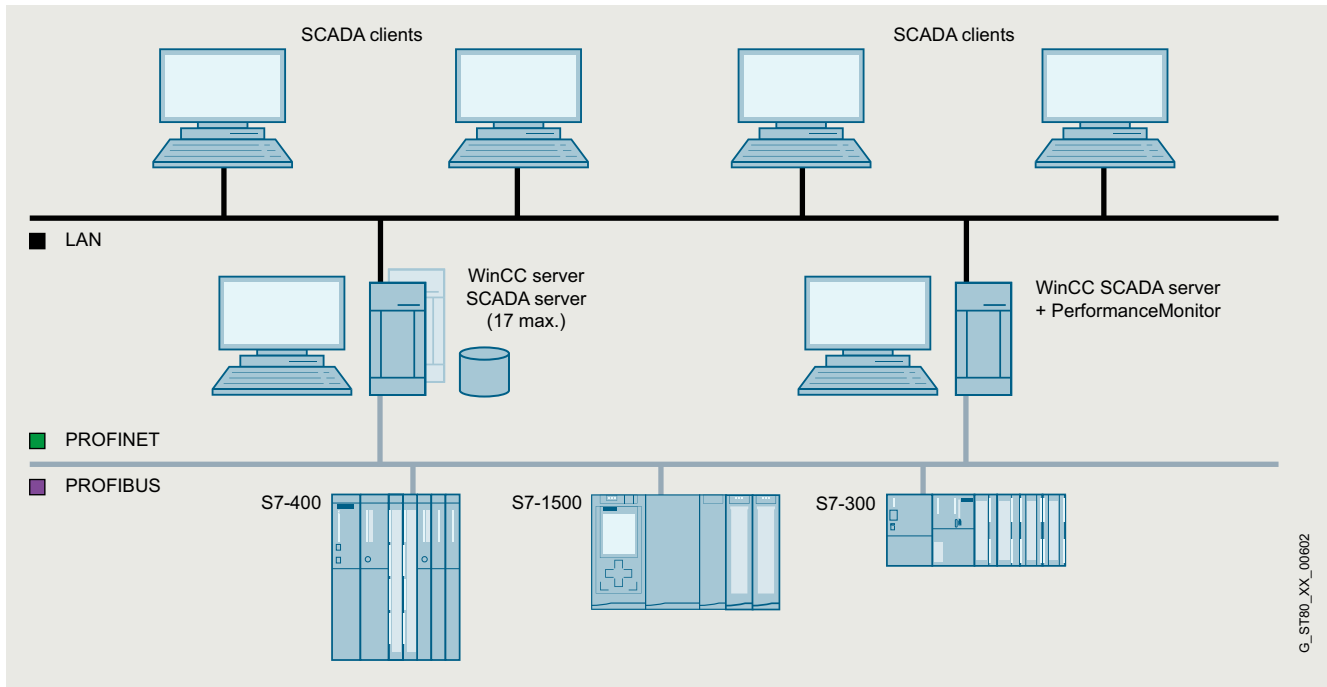
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6AV6371-1GC07-3AX0

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 licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

WinCC/PerformanceMonitor**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. | Ordering data | Article No. |
|---|--|---|--|
| WinCC/PerformanceMonitor WinCC/PerformanceMonitor Basic Package Including 30 PerformanceMonitor archive tags <ul style="list-style-type: none"> • WinCC/PerformanceMonitor V7.5 SP2 • WinCC/PerformanceMonitor V7.4 SP1 <u>As download</u> <ul style="list-style-type: none"> • WinCC/PerformanceMonitor V7.5 SP2 • WinCC/PerformanceMonitor V7.4 SP1 for WinCC V7.4 SP1 | 6AV6372-2DG07-5AA0 6AV6372-2DG07-4AA0 6AV6372-2HG07-5AA0 6AV6372-2HG07-4AA0 | WinCC/PerformanceMonitor Upgrade V7.4 to V7.5 SP2 <ul style="list-style-type: none"> • Standard software • As download V7.2/7.3 to V7.5 SP2 <ul style="list-style-type: none"> • Standard software • As download V7.x to V7.4 SP1 <ul style="list-style-type: none"> • Standard software • As download | 6AV6372-2DG07-5AX4 6AV6372-2KG07-5AX4 6AV6372-2DG07-5AX3 6AV6372-2KG07-5AX3 6AV6372-2DG07-4AX3 6AV6372-2KG07-4AX3 |
| Option for WinCC/PerformanceMonitor V7.4 SP1 and V7.5 SP2 Basic Package <ul style="list-style-type: none"> • 30 additive PerformanceMonitor archive tags • 100 additive PerformanceMonitor archive tags • 300 additive PerformanceMonitor archive tags • 1 000 additive PerformanceMonitor archive tags <u>As download</u> <ul style="list-style-type: none"> • 30 additive PerformanceMonitor archive tags • 100 additive PerformanceMonitor archive tags • 300 additive PerformanceMonitor archive tags • 1 000 additive PerformanceMonitor archive tags | 6AV6372-2CG20-0BA0 6AV6372-2CG20-0CA0 6AV6372-2CG20-0DA0 6AV6372-2CG20-0EA0 6AV6372-2JG20-0BA0 6AV6372-2JG20-0CA0 6AV6372-2JG20-0DA0 6AV6372-2JG20-0EA0 | | |

More information

You can find more information at:

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

HMI software

SIMATIC WinCC V7

SIMATIC WinCC V7 options

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 V7.5 SP2

- Runtime Software, Single License for 2 installations
- As download, Runtime Software, Single License for 2 installations

6AV6371-1CF07-5AX0

6AV6371-1HF07-5AX0

SIMATIC WinCC/Redundancy V7.4 SP1

- Runtime Software, Single License for 2 installations
- As download, Runtime Software, Single License for 2 installations

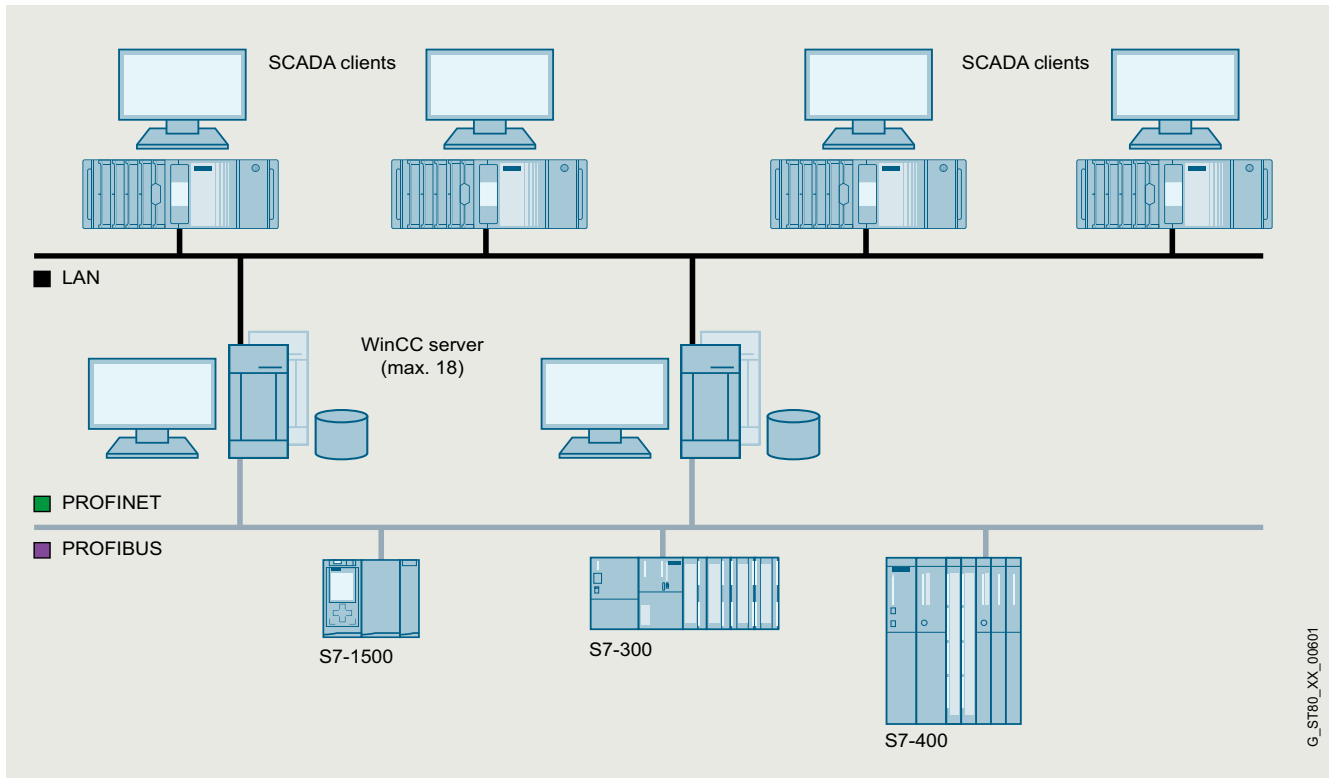
6AV6371-1CF07-4AX0

6AV6371-1HF07-4AX0

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>

HMI software

SIMATIC WinCC V7

SSIMATIC WinCC V7 options

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 V7.5 SP2

- Runtime Software, Single License
- As download, Runtime Software, Single License

6AV6371-1CA07-5AX0
6AV6371-1HA07-5AX0

SIMATIC WinCC/Server V7.4 SP1

- Runtime Software, Single License
- As download, Runtime Software, Single License

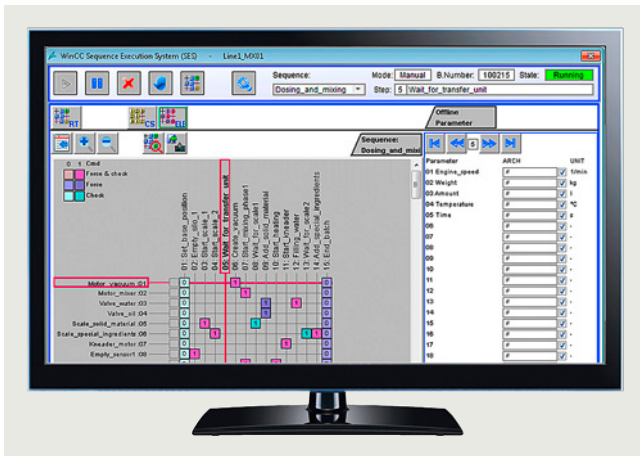
6AV6371-1CA07-4AX0
6AV6371-1HA07-4AX0

More information

You can find more information at:

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

Overview



WinCC/SES

The WinCC/SES (Sequence Execution System) is designed for the sequential control of recipe and sequence-based processes in production. WinCC/SES is especially suitable for production plants in which dosing, mixing and material transport are important process actions.

Sequence controls can be structured with a high degree of flexibility, with the production steps being defined in a clear configuration interface and freely combined to form individual process sequences. In addition both the step sequences and the parameters can be modified online during production runs.

WinCC/SES helps the user to fine tune their production processes by allowing them to easily combine automatic sequences with manual interventions. This means that operators can react quickly and intervene in the running process, for example when quality of the raw materials fluctuates or if a different sequence among the production steps becomes necessary to facilitate more versatile production paths.

WinCC/SES also offers a high level of system availability and rapid response times since the program sequence takes place directly on the automation controller instead of on the PC.

Licenses

In addition to the basic SIMATIC WinCC V7.4 software, WinCC/SES V7.4 also requires STEP 7 version 5.5 SP4 to be installed.

The basic pack allows the sequential control of two plant sections. Extension Units can be used to increase the number of plant sections by 5 in each case (countable 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

- Combination of automatic step sequence with manual fine adjustment of the production sequences (e.g. if behavior of natural raw materials fluctuates)
- Due to the pre-assembled SES visualization control and the SES function blocks, a high degree of engineering efficiency is achieved, because the plant engineer or configurator saves both engineering and testing and commissioning time as a result.
- SES allows flexible paths through the production and is thus an enabler for even utilization of the individual production plants
- Increased quality due to efficient operations management
- SES fulfils the real-time requirement because the steps run in the PLC
- High availability due to the execution of the step sequencer in the PLC.
- Low training costs due to uniform procedures for all step sequencers
- Minimal engineering outlay due to standardization

Application

WinCC/SES is used in production facilities in which dosing, mixing and material transport play an important role. In such facilities, raw materials stored in tanks, silos or containers must be combined in the right process sequence with reaction containers and processing machines. This is done over several processing steps until the end product.

In WinCC/SES, the plant operator defines the production steps of his production units, specifies the production parameters such as the setpoints, and defines the corresponding production sequences in the form of step sequencers, which may comprise numerous single steps.

The SES operator control provides live visualization of the steps, including intuitive operation. After the start of production, all of the steps and production parameters such as the setpoints and actual values, as well as the current status of the production sequence are displayed in the form of an overview in the SES operator control.

During operation, the operator can thus quickly and easily readjust production sequences by manually intervening in the automatic step sequence online and, if necessary, by jumping to another step or changing the step sequence. This is required, for example, if the quality of natural raw materials fluctuates or if a different order of individual production steps is generally needed for flexible paths through production.

High system availability and fast response times are characteristic of WinCC/SES, because all of the step sequencers do not run on the PC. Instead, they are executed directly on the PLCs. As a result, the user gets a real-time behavior, on the one hand, due to the processing on the PLCs and, on the other hand, this also increases the protection against failures, because a batch continues to be produced without changes if the PC/SCADA fails.