

SIMATIC




PCS 7 SIMATIC PCS 7 - What's New (V10.0)

Readme

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

 DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
 WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
 CAUTION
indicates that minor personal injury can result if proper precautions are not taken.
NOTICE
indicates that property damage can result if proper precautions are not taken.


If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

 WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens Aktiengesellschaft. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

- 1 Cybersecurity information..... 5
- 2 What's new in SIMATIC PCS 7 V10.0? 7

Cybersecurity information

Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial cybersecurity measures that may be implemented, please visit
<https://www.siemens.com/cybersecurity-industry>.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under
<https://new.siemens.com/cert>.

What's new in SIMATIC PCS 7 V10.0?

This document provides you an overview of the key enhancements within SIMATIC PCS 7 V10.0.

General

- Supports upgrade of SIMATIC PCS 7 from V9.0.3 and V9.1.2 to V10.0.

Security

- Microsoft SQL Server
Only static ports are used by SQL Servers in SIMATIC PCS 7 V10.0.
- Support of Secure Boot and Bitlocker (Bitlocker not supported for VMware systems).
- Support of RUGGEDCOM RMM2972M-4SFP and RMM2973M-4RJ45 MACsec Media Modules.
For more information, refer RuggedCom Switches (<https://support.industry.siemens.com/cs/ww/en/view/109820644>).
- Trellix Application Control V8.4.1 has been released for PCS 7 V10.0.
- SIMATIC PCS 7 V10.0 supports usage of SMB V3 encryption.
- Overview of ports and protocols supported by SIMATIC PCS 7 is as per the FAQ (<https://support.industry.siemens.com/cs/document/109963934>).
- The security settings as a part of CIS benchmarks for Windows operating systems are tested on compatibility with SIMATIC PCS 7 V10.0. For more information, refer FAQ (<https://support.industry.siemens.com/cs/ww/en/view/109963935>)
- The "SoftwareIntegrityCheck" tool available with the SIMATIC PCS 7 setup helps the user with the following tasks:
 - Verify the integrity of the SIMATIC PCS 7 USB stick.
 - Checks the signature validity and authenticate the user of the 'content.cat' file provided.

For more information, refer to Compendium F (<https://support.industry.siemens.com/cs/document/109972320>).

SIMATIC PCS 7 Engineering Station

- Improved graphical differentiation of Control Module (CM) Component Structure.
- Enhanced object navigation in the Technological Editor (TED).
- VXM – Support for COMOS/PAA V4.0 model.
The integration of PAA/COMOS planning tools aimed at exchanging data easily using the abstract process engineering language level.
- SIMATIC PCS 7 V10.0 supports ISA-106 Physical Model in the technological hierarchy.
- System ID is mandatory for SIMATIC PCS 7 multi-project. You can register for the same with this link: SID registration (<https://myregistration.siemens.com/>)

GMP relevant Audit function set

SIMATIC PCS 7 Audit is an optional function set within SIMATIC PCS 7 V10.0 which provides significance to the Good Manufacturing Practice (GMP) relevant features of SIMATIC PCS 7.

SIMATIC PCS 7 Audit relevant events across the PCS 7 system are stored in a dedicated Audit Schema on PCS 7 Process Historian database.

The main purposes of this function set are:

- Audit relevant data can be found and filtered very easy because there is only one data storage for all Audit trail relevant data.
- With appropriate user rights data recording can be stopped when there is no plant production because Audit Trail can be switched on or off.
- PCS 7 Audit can be centrally configured according to individual customer needs and the guideline of the auditor.
- Provided audit report template can be adapted individually according to the guideline of the auditor.
- Improved audit functions additionally facilitate engineering of PCS 7 systems for the validated industries according to the common GMP regulations like FDA 21 CFR Part 11 or Annex 11 of EU GMP guideline.

SIMATIC PCS 7 Operator Station

- SIMATIC PCS 7 V10.0 supports the following operating systems (OS):
 - Windows 10 Enterprise LTSC 2019 (64 bit - IoT and none IoT)
 - Windows 10 Enterprise LTSC 2021 (IoT)
 - Windows Server 2019 Standard Edition / Datacenter (IoT and none IoT)
 - Windows Server 2022 Standard Edition / Datacenter (IoT and none IoT)
- SIMATIC PCS 7 V10.0 is tested for compatibility with Microsoft Office Professional 2021 (64 bit) with the supported OS.
- WinCC GUI is enhanced in terms of new layout, options and icons.
- Added advanced setting options for reference client projects.
- Added central setting for "Derive block icons from the plant hierarchy" property.
- Improved Tag Usage Search option in Tag Management.
- Added font and shadow on disabled buttons in "negative displays".
- Configurable additional background colors.
- Improved OS Client Standard Server Configuration.
- Supports Microsoft SQL Server 2019.
- Security enhancement of Windows installation:
 - SNMP service not needed
 - .Net 3.5 not needed (except ES)
- WinCC creates project-shares with read-only for SIMATIC PCS 7 for an entire multi-project.

- Automatic installation of required Microsoft components (for example: IIS, Message Queuing).
- Overview of tags configured in the online trend.
- Tag browser filter extension.
- WinCCViewerRT as a recommended client software for webclients.
- Refactoring of channel diagnostic control.
- Extension of OS Project Editor for new Resolutions in OS Runtime Operating in Single and Multi Monitor Mode.

Display type	Resolution
SIMATIC Server	2560x1440
SIMATIC Server	2560x1600
SIMATIC Server	3840x1080
SIMATIC Server	3840x2160
SIMATIC Server	5120x1440
SIMATIC Server view	2560x1440
SIMATIC Server view	2560x1600
SIMATIC Server view	3840x1080
SIMATIC Server view	3840x2160
SIMATIC Server view	5120x1440
SIMATIC Standard	2560x1440
SIMATIC Standard	2560x1600
SIMATIC Standard	3840x1080
SIMATIC Standard	3840x2160
SIMATIC Standard	5120x1440

For additional information, refer to the following manuals:

- *SIMATIC Process Control System; PCS 7 Operator Station Process Control V10.0.*
- *SIMATIC Process Control System; PCS 7 Operator Station V10.0.*
- *SIMATIC Process Control System; PCS 7 Engineering System V10.0.*
- *SIMATIC Process Control System; PCS 7 PC Configuration V10.0.*

SIMATIC BATCH

- If you use a Process Historian in a plant configuration, the message texts from the OS are now displayed in the standard report in the respective language of the report. Until now, the message texts from the OS were shown in only in English language.
- Display state of SIMATIC BATCH servers on operator stations.

SIMATIC Route Control (RC)

- **Route Control Server**
 - The Route Control server automatically updates the WinCC alarm journal list during server updates. This list captures user/client comments provided in "Update SIMATIC RC Server" dialog in RC Center, including associated user and computer names. Furthermore, all this information is seamlessly synchronized with the route logs.
Similarly, the user names and computer names are promptly updated in the operator list during RC faceplate events. Additionally, some performance improvements have been made in the server optimization of redundancy and synchronization of the configuration between 2 servers master and standby. If any new configurations are detected with identical versions, no prompts are generated. A successful download requires at least one server to be available, remaining servers automatically synchronized. If that server is temporarily unavailable, synchronization occurs once the server is up. For more information, refer to the topic "Configuring with Route Control Engineering" and "Transfer to the Server" in the *SIMATIC Process Control System PCS 7; SIMATIC Route Control V10.0* manual.
 - Settings for redundant Route Control servers (Serial connection or LAN connection):
 - In the case of configurations with a pure Route Control server setup without PCS 7 OS/BATCH, you have the option to choose either a serial or LAN connection.
 - In the case of configurations with SIMATIC BATCH/PCS 7 OS, you must configure a LAN connection.
- **Route Control Wizard**
 - The new UI is designed to display the list of deleted elements from Simatic Manager. It primarily includes a "tree view area" and a "preview area," accompanied by buttons and an information box. It is used to select multiple elements for deletion, allowing a single warning message to be displayed for all deleted elements. For more information, refer to the topic "Deleting Used Elements" in the *SIMATIC Process Control System PCS 7; SIMATIC Route Control V10.0* manual.
- **Route Control Engineering**
 - In Route Control Engineering, a consistency check and an enhanced pre-download verification process for engineered data are implemented before transferring it to the RC Server. The RC Wizard also checks for partial route elements and identifies any deleted elements in red within SIMATIC Manager. For more information, refer to the topic "Consistency Check" in the *SIMATIC Process Control System PCS 7; SIMATIC Route Control V10.0* manual.
 - When a partial route contains any deleted elements and a user attempts to download this data to the server, the system will not allow the download of inconsistent data and will display an error. Downloading inconsistent data can result in an error during route run or might affect the running routes. For more information, refer to the topic "Transfer to the Server" in the *SIMATIC Process Control System PCS 7; SIMATIC Route Control V10.0* manual.

- **Reports**
 - Users can view the reports without any dependency on third-party software installation, and the report is visible to all users by default.
 - Crystal Report is no longer part of PCS 7 delivery.
- **Route Control Center**
 - The user must provide a reason in the comment section of the 'Update SIMATIC RC Server' dialog box in RC center. This feature contributes to GMP Audit relevant traceability. For more information, refer to the topic 'Updating the Route Control Server' in the *SIMATIC Process Control System; SIMATIC Route Control V10.0* manual.
 - Additionally, to enhance usability, an asterisk (*) will now appear next to the material name in the material column for all running routes where the material has been changed. This asterisk will be removed after the material is applied using the 'Apply Material' option in the toolbar. This improvement allows users to view the status of applied material for all routes without having to select each route individually.

SIMATIC Management Console (SMMC)

- SMMC tasks can be scheduled at user configurable times. The supported tasks are:
 - MS Defender event report
 - Determine inventory data (Network view)
- SMMC performs a task without a user login. This allows E-mail notifications of critical events to be sent at any time and scheduled tasks to be performed. E-mail notifications can be sent at configurable times, combining data for user defined time intervals in one E-mail.
- Event categories that trigger an E-mail notification can be configured.

PCS 7 Logic Matrix

- Logic Matrix supports read-back of messages from the matrix CFC into the editor.
- When performing "Read project data" in Logic Matrix, all forbidden characters in the project are detected and a warning message is displayed.
- In WinCC runtime, for each operation performed on the Logic Matrix faceplate, the operator action along with the respective operator details (computer name and username) is displayed in "Computer Name" and "User Name" columns of the operation list.
- Logic Matrix now supports copy operation. Single or multiple Logic Matrices can now be copied simultaneously. When copying a matrix, all of its configurations are copied to the newly created matrix.
- The message classes of Logic Matrix alarms are now displayed in the user interface language of SIMATIC Manager.
- Logic Matrix editor to allow users to print the matrix details.
- Multi-reset function in Logic Matrix faceplate is enhanced to ensure that no script error occurs during the operation.
- The Logic Matrix block icons in the OS client have been improved to correctly display colors. For more details, refer *Process Control System; Logic Matrix* Online Readme.

Process Historian/Information Server

- Audit Trail in Process Historian and a new Audit Trail Report in Information Server
- Backup / Restore functionality for Information Server
- New Product OPC UA Data Collector (Third party data acquisition per OPC UA)
- Support of Tag data type "String" for all Products (Process Historian, Information Server, OPC UA Server).

SIMATIC Logon

- Automatic Session Logoff:
For new installation, SIMATIC Logon "Automatic Logoff" is enabled by default and default values are:
 - Idle Time (until automatic logoff is activated): 15 mins
 - Response Time (until automatic logoff is executed): 30 secsIf it is an upgrade installation, the previous configuration settings will be kept as it is.
- Increased security in SIMATIC Logon login dialog box:
 - The "Change password" button is configured such that it can be enabled or disabled in the SL configuration dialog.
- Increased security level for Eventlog Viewer:
 - Only users of the group 'Extended Logon Administrators' can the event log viewer.
- Increased security level for SIMATIC Logon folder and files.
- Quality of the software is enhanced in the following aspects:
 - Improved robustness between WinCC and SIMATIC Logon.
 - Minor corrections when using smart card for user authentication.
 - Enhancements for SIMATIC Logon Eventlog viewer.
 - Improved behavior between WinCC and SIMATIC Logon Electronic Signature.
- Increased security of onscreen keyboard usage for WinCC.

SIMATIC Advanced Process Library

- New Motor block for 3 speed motor applications (MotSpd3L) is added
- New Operator control block for 8 stages (OpDi08) is added
- Audit Levels for SIMATIC PCS 7 Audit definition at CFC for operable parameters from HMI faceplate
- Function Block enhancements:
 - Operator control block – new input to display output channel status
 - MotSpdL – Dedicated monitoring time for speed change
 - OPScale as output for optimized signal flow
 - Drive block – handling local mode and simulation simultaneously

- Block Symbol and Faceplate enhancements:
 - Customizable picture & text indication in faceplate for each block instance
 - Immediate focus for time-based input field in operation area
 - OpTrig: New block icon variants with FbkIn display
 - CountOH: Improvement of trend view.
- Channel Block support:
 - New PCS 7 MS channel block for ET 200SP HA Motorstarter (non F)
 - Modbus communication blocks: Support Int, Real and Word datatype
 - Condition monitoring: MS_Ext values 3, 5, 6 and 8 are regarded when building process value status.
- Name of the operator is displayed in the "User name" column of the operation list

For more information, refer to the *SIMATIC Process Control System; PCS 7 Advanced Process Library (V10.0)* manual.

SIMATIC PCS 7 Basis Library

- CPU_RES block: is used to determine if an SFC/SFB state machine in the CPU is blocked for operation.
- Support of new Hardware modules for Diagnostic, refer the "Hardware Support" section for more information.
- New Filter criteria for active Note View in Measuring Point Browser.

For more information, refer to the *SIMATIC Process Control System; PCS 7 Basis Library (V10.0)* manual.

SIMATIC PCS 7 Maintenance Station / PDM Maintenance Station

- Security improvements:
 - Replacement of OPC DA with OPC UA based communication for monitoring the Server-Client connections in SIMATIC WinCC
 - Support of new SIMATIC NET OPC-Server V9.0:
Replacement of OPC DA with OPC UA based communication between SIMATIC WinCC and SIMATIC NET
 - Replacement of SNMP V1 with SNMP V3 for network device communication
- Discontinuation of support for SIMATIC PC DiagMonitor for IPC Diagnostics, preparation for upcoming SIMATIC IPC ORCLA.
- Support of new Chromium WinCC Control instead of old IE Control in the MS.
- Support of new PCS 7 hardware (CN4100) in PCS 7 ASSET Management.
- Support of PA profile V4.02 PN devices with new function blocks MOD_PA32 and MOD_PA256.

For more information, refer to the *SIMATIC Process Control System; PCS 7 Maintenance Station (V10.0)* manual.

SIMATIC PDM

- Support of new hardware component of DCS SIMATIC PCS 7 like CFU CIO HART.
- Bulk operation for assigning device description packages in the process device plant view (offline).
- New Column "Parameter transfer" in Process Device Plant View for identifying devices with changed parameterization and for bulk operation to load device parameters.
- New Column "Synchronization" in Process Device Plant View to detect the last complete parameter synchronization between field devices and the project database.
- More information (Status, manufacturer, device type) about the field devices in the web portal view.
- Update of device library,

For more information, refer to the *SIMATIC Process Control System; Help for SIMATIC PDM V9.3* manual.

SIMATIC Industry PCs

- Release of Process Control System IPC547J, IPC647E, IPC847E with new Operating Systems and PCS 7 V10.0 pre-installation
 - ES/OS Single Station and OS Client = Windows 10 IoT Enterprise LTSC 2021
 - OS Server = Windows Server IoT 2022 Standard Edition
 - Web Server, Central ES and Process Historian / Information Server (only IPC647E and IPC847E) = Windows Server IoT 2022 Standard Edition
- Release of new Process Control System IPC 227G/277G and BX-39A/PX-39A.
 - OS Client = Windows 10 IoT Enterprise LTSC 2021

Microsoft Hyper-V Virtualization

- Increase of the number of simultaneously operated virtual machines (up to 4 simultaneously operated virtual machines) based on Microsoft Hyper-V with the SIMATIC Process Control System RACK IPC647E / IPC847E with 8 core processor.
- Release of additional PCS 7 station types for Microsoft Hyper-V Virtualization based on Process Control System RACK IPCs with Windows Server 2022 Operating System:
 - BATCH Single Station
 - BATCH Server
 - BATCH Client

Hardware support

- Support of additional I/O modules:
 - AI Energy Meter 500V HF (6ES7134-6PA01-0CU0) and (6ES7134-6PA21-0CU0) are released in a ET 200SP HA station.
 - AI Energy Meter 500V HF (6ES7134-6PA01-0CU0) and (6ES7134-6PA21-0CU0) are released in a ET 200SP station.
- Support of ET 200SP HA, AI 16xI 2-wire HA module (6DL1134-6GH00-0PH1) is released for ET 200SP HA with firmware version V1.2.
- Support of:
 - SoE for DI 8x230VAC HA (6DL1 131-6GF00-0PK0)
 - ET 200SP HA AI 8xU/I/TC/RTD module (6DL1 134-6AF00-0PH1) is released for ET 200SP HA with firmware version V1.2.
- Support for Motorstarters of ET 200SP HA.

Abbreviation	MLFB	IM Firmware version
DS 0,1 - 0,4A HF	3RK1308-0AA00-0CPO	V1.2
DS 0,3 - 1A HF	3RK1308-0AB00-0CPO	V1.2
DS 0,9 - 3A HF	3RK1308-0AC00-0CPO	V1.2
DS 2,8 - 9A HF	3RK1308-0AD00-0CPO	V1.2
DS 4,0 - 12A HF	3RK1308-0AE00-0CPO	V1.2
RS 0,1 - 0,4A HF	3RK1308-0BA00-0CPO	V1.2
RS 0,3 - 1A HF	3RK1308-0BB00-0CPO	V1.2
RS 0,9 - 3A HF	3RK1308-0BC00-0CPO	V1.2
RS 2,8 - 9A HF	3RK1308-0BD00-0CPO	V1.2
RS 4,0 - 12A HF	3RK1308-0BE00-0CPO	V1.2

BaseUnits:

Abbreviation	MLFB
BU with single 24V and 400V for ET 200SP HA	BU30-MS1-HA 3RK1908-0AP00-0AH0
BU with feed 400V for ET 200SP HA	BU30-MS2-HA 3RK1908-0AP00-0CHO
BU with feed 24V for ET 200SP HA	BU30-MS3-HA 3RK1908-0AP00-0BH0
BU with feed for ET 200SP HA	BU30-MS4-HA 3RK1908-0AP00-0DH0

- Support of new D-SUB Terminal Blocks for ET 200SP HA.

Abbreviation	MLFB
TERMINAL BLOCK, TYPE M0, D-SUB, IO-RED	6DL1193-6TC00-0DM0
TERMINAL BLOCK, TYPE F0, D-SUB, F-AI, RED	6DL1193-6TC00-0DF0
TERMINAL BLOCK, TYPE S0, D-SUB, ISOL	6DL1193-6TC00-0DS0
TERMINAL BLOCK, TYPE R0, D-SUB, ISOL, RED	6DL1193-6TC00-0DR0

- Support for CFU PA/DIQ firmware V2.0.
 - CFU PA (6ES7655-5PX11-1XX0)
 - CFU DIQ (6ES7655-5PX31-1XX0)

- Support of CFU CIO HART (6ES7655-5PX41-1XX0).
- Support of CP 443-1 (6GK5 443-1EX30-0XEx) with firmware V3.3.
- Support of PROFINET over Advanced Physical Layer.

For additional information, refer
SIMATIC Process Control System; PCS 7 Released Modules V10.0.

Documentation

- **Multifaceted search**
This functionality utilizes designated attributes as criteria for users to fine-tune their search results. Users are presented with distinct and relevant filtering options, offering a user-friendly and convenient approach to content discovery.
- **Integrity check**
The integrity check process is carried out on the documents available on PUD Manager. It is concluded through a secure signing procedure utilizing a "One-Time Key", thereby ensuring the integrity of the documents.