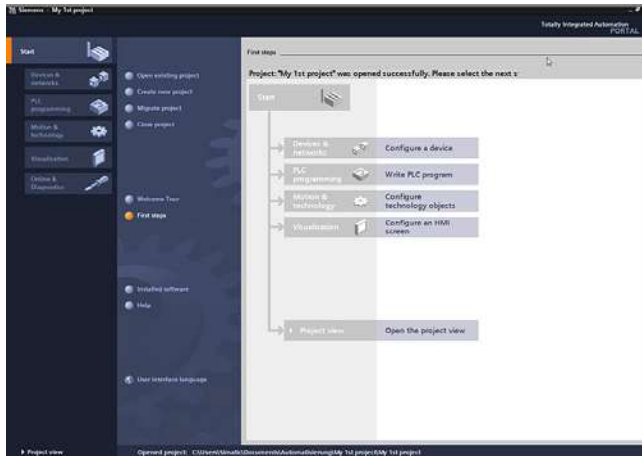
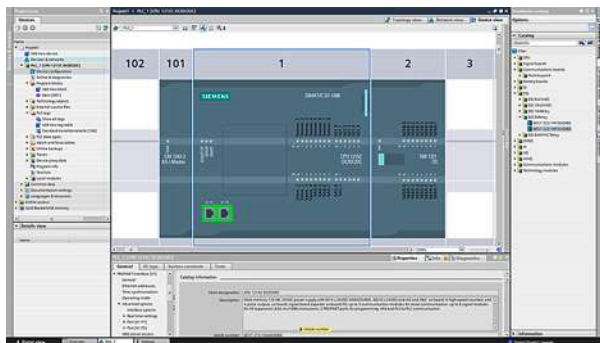


Overview



STEP 7 Basic V15.1 (TIA Portal), portal view



STEP 7 Basic V15.1 (TIA Portal), device view: configuring and parameterizing in realistic photo-quality representation

Intuitive, efficient and future-oriented - the engineering software for programming SIMATIC controllers

SIMATIC STEP 7 Basic V15.1 is the engineering system for the SIMATIC S7-1200.

STEP 7 Basic V15.1 is based on the Totally Integrated Automation Portal (TIA Portal) central engineering framework which offers users a uniform, efficient and intuitive solution for all automation tasks.

New with V15.1

- Optional display of SCL block interfaces in SCL notation (instead of tabular view)
- Enhancement of the cross-reference display for interface parameters
- Simplified handling of the diagram configurations in the trace
- User-defined keyboard shortcuts
- Improved importing and exporting of project texts

Licensing

- STEP 7 Basic V15.1 is supplied with a floating license. The floating license allows the software to be used on any number of computers. This means one user per license can use the software independently of the computer used and without being tied to a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- STEP 7 Basic V15 and V15.1 are both enabled with the same STEP 7 Basic V15 license.
- Existing STEP 7 Basic licenses of versions V11 to V14 can be upgraded to V15.1. This requires an upgrade license.
- A STEP 7 Basic V15.1 license can be upgraded to a STEP 7 Professional V15.1 license with a Powerpack.

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>

Technical specifications

	STEP 7 Basic V15.1 (TIA Portal)
License type	Floating license
Software class	A
Current version	V15.1
Target system	SIMATIC S7-1200
Operating systems	Windows 7 (64-bit) <ul style="list-style-type: none"> • Windows 7 Home Premium SP1 • Windows 7 Professional SP1 • Windows 7 Enterprise SP1 • Windows 7 Ultimate SP1 Windows 10 (64-bit) <ul style="list-style-type: none"> • Windows 10 Home Version 1709, 1803 • Windows 10 Professional Version 1709, 1803 • Windows 10 Enterprise Version 1709, 1803 • Windows 10 Enterprise 2016 LTSC • Windows 10 IoT Enterprise 2015 LTSC • Windows 10 IoT Enterprise 2016 LTSC Windows Server (64-bit) <ul style="list-style-type: none"> • Windows Server 2012 R2 StdE (full installation) • Windows Server 2016 Standard (full installation)
Recommended PC hardware	
Computer	SIMATIC Field PG M5 Advanced or higher (or comparable PC)
Processor	Intel Core i5-6440EQ (up to 3.4 GHz)
RAM	16 GB or more (min. 8 GB, 32 GB for large projects)
Hard disk	SSD with at least 50 GB storage space available
Network	1 Gbit (for multi-user)
Screen	15.6" full HD display (1920 x 1080 or higher)

Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 Basic (TIA Portal)

Technical specifications (continued)

Compatibility with other SIMATIC products

STEP 7 V15.1 can be installed on a PC in parallel with other versions of STEP 7 V11 to V15, STEP 7 V5.4 or higher, STEP 7 Micro/WIN, WinCC flexible (from 2008) and WinCC (V7.0 SP2 or higher).

Projects as from TIA Portal project version V13 SP1 can be directly upgraded to V15.1. Upgrading of projects from previous project versions (V11 to V13) is carried out on the basis of the TIA Portal products (e.g. STEP 7) used in the project in version V13 SP1 or V13 SP2 (latest update recommended).

Important note

TIA Portal project versions V13 SP1 to V15.1 are upgraded to project version V15.1 with TIA Portal V15.1. If you need to edit a TIA Portal project version V13 SP1 to V15, we recommend that you install that specific version of TIA Portal in addition to TIA Portal V15.1. The license purchased for V15.1 is also valid for all older TIA Portal versions.

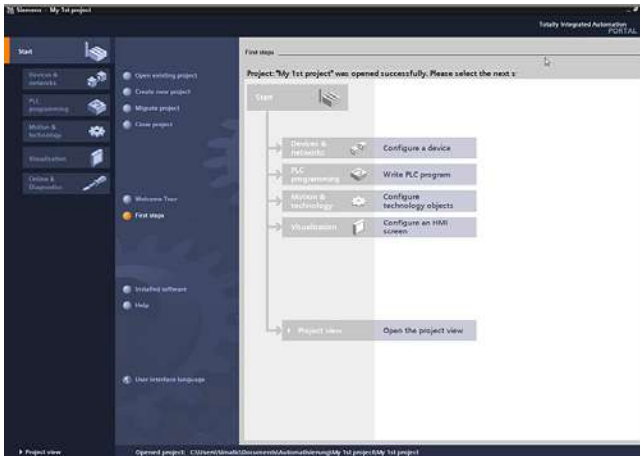
Program code and hardware configuration from STEP 7 V5.4 SP5 can be migrated directly to a TIA Portal V15.1 project with STEP 7 V15.1.

Ordering data	Article No.		Article No.
STEP 7 Basic V15.1 Target system: SIMATIC S7-1200 Requirement: Windows 7 Home Premium SP1 (64-bit) Windows 7 Professional SP1 (64-bit) Windows 7 Enterprise SP1 (64-bit) Windows 7 Ultimate SP1 (64-bit) Windows 10 Home Version 1709, 1803 Windows 10 Professional Version 1709, 1803 Windows 10 Enterprise Version 1709, 1803 Windows 10 Enterprise 2016 LTSB Windows 10 IoT Enterprise 2015 LTSB Windows 10 IoT Enterprise 2016 LTSB Windows Server 2012 R2 StdE (full installation) Windows Server 2016 Standard (full installation) Type of delivery: en, de, fr, es, it, zh		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 software package. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration. Requires the current software version	
STEP 7 Basic V15.1, floating license	6ES7822-0AA05-0YA5	Software Update Service (Standard Edition)²⁾ 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.) • STEP 7 Basic	6ES7822-0AA00-0YL0
STEP 7 Basic V15.1, floating license, software download incl. license key¹⁾ Email address required for delivery	6ES7822-0AE05-0YA5	Software Update Service (Compact Edition)²⁾ 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. • STEP 7 Basic	6ES7822-0AA00-0YMO
STEP 7 Basic/Professional V15.1, trial license	6ES7822-1AA05-0YA7	Software Update Service (download)²⁾: Upgrades and Service Packs are available for downloading. Email address required for delivery • STEP 7 Basic	6ES7822-0AE00-0YY0
Upgrade STEP 7 Basic V11...V14 to STEP 7 Basic V15.1, floating license	6ES7822-0AA05-0YE5		
Upgrade STEP 7 Basic V11...V14 to STEP 7 Basic V15.1, floating license, software download incl. license key¹⁾ Email address required for delivery	6ES7822-0AE05-0YE5		
Powerpack STEP 7 Basic V15.1 to STEP 7 Professional V15.1, floating license	6ES7822-1AA05-0YC5		
Powerpack STEP 7 Basic V15.1 to STEP 7 Professional V15.1, floating license, software download incl. license key¹⁾ Email address required for delivery	6ES7822-1AE05-0YC5		

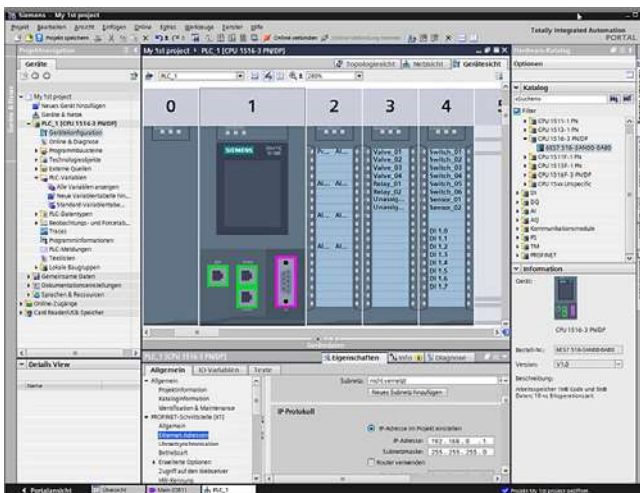
¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

²⁾ For more information on the Software Update Service, see page 11/2.

Overview



STEP 7 Professional V15.1 (TIA Portal), portal view



STEP 7 Professional V15.1 (TIA Portal), device view: configuring and parameterizing in realistic photo-quality representation

Intuitive, efficient and future-oriented - the engineering software for programming the SIMATIC controllers

SIMATIC STEP 7 Professional V15.1 is the engineering system for the S7-1200, S7-1500, S7-300, and S7-400 SIMATIC controllers, WinAC and software controllers.

STEP 7 V15.1 is based on the Totally Integrated Automation Portal (TIA Portal) central engineering framework which offers users a uniform, efficient and intuitive solution to all automation tasks.

New with V15.1

- Support of the high availability S7-1500R/H controllers
- Software units for program structuring
- Choice between tabular and textual interface when creating new SCL blocks
- Improvements in online monitoring of blocks
- Enhancement of the cross-reference display for interface parameters
- Simplified handling of the diagram configurations in the trace
- User-defined keyboard shortcuts
- Improved importing and exporting of project texts

Licenses

- STEP 7 Professional V15.1 is supplied with a STEP 7 Professional V15 floating license. The floating license allows the software to be used on any number of computers. This means one user per license can use the software independently of the computer used and without being tied to a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- STEP 7 Professional V15 and V15.1 are both enabled with the same STEP 7 Professional V15 license.
- Existing STEP 7 Professional licenses of versions V11 to V14 can be upgraded to V15.1. This requires an upgrade license.
- The user receives a combo license when upgrading from STEP 7 V5.x. The combo license enables engineering to be performed both on the STEP 7 V 5.x and the STEP 7 V15.1 platform.
- A STEP 7 Basic V15.1 license can be upgraded to a STEP 7 Professional V15.1 license with a Powerpack.

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>

Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 Professional (TIA Portal)

Technical specifications

STEP 7 Professional V15.1 (TIA Portal)	
License type	Floating license
Software class	A
Current version	V15.1
Target system	SIMATIC S7-1200, S7-1500, S7-300, S7-400, WinAC, software controllers
Operating systems	Windows 7 (64-bit) <ul style="list-style-type: none"> Windows 7 Home Premium SP1 Windows 7 Professional SP1 Windows 7 Enterprise SP1 Windows 7 Ultimate SP1 Windows 10 (64-bit) <ul style="list-style-type: none"> Windows 10 Home Version 1709, 1803 Windows 10 Professional Version 1709, 1803 Windows 10 Enterprise Version 1709, 1803 Windows 10 Enterprise 2016 LTSB Windows 10 IoT Enterprise 2015 LTSB Windows 10 IoT Enterprise 2016 LTSB Windows Server (64-bit) <ul style="list-style-type: none"> Windows Server 2012 R2 StdE (full installation) Windows Server 2016 Standard (full installation)
Recommended PC hardware	
Computer	SIMATIC Field PG M5 Advanced or higher (or comparable PC)
Processor	Intel Core i5-6440EQ (up to 3.4 GHz)
RAM	16 GB or more (min. 8 GB, 32 GB for large projects)
Hard disk	SSD with at least 50 GB storage space available
Network	1 Gbit (for multi-user)
Screen	15.6" full HD display (1920 x 1080 or higher)

Compatibility with other SIMATIC products

STEP 7 V15.1 can be installed on a PC in parallel with other versions of STEP 7 V11 to V15, STEP 7 V5.4 or higher, STEP 7 Micro/WIN, WinCC flexible (from 2008) and WinCC (V7.0 SP2 or higher).

Projects as from TIA Portal project version V13 SP1 can be directly upgraded to V15.1. Upgrading of projects from previous project versions (V11 to V13) is carried out on the basis of the TIA Portal products (e.g. STEP 7) used in the project in version V13 SP1 or V13 SP2 (latest update recommended).

Important note

TIA Portal project versions V13 SP1 to V15 are upgraded to project version V15.1 with TIA Portal V15.1. If you need to edit a TIA Portal project version V13 SP1 to V15, we recommend that you install that specific version of TIA Portal in addition to TIA Portal V15.1. The license purchased for V15.1 is also valid for all older TIA Portal versions.

Program code and hardware configuration from STEP 7 V5.4 SP5 can be migrated directly to a TIA Portal V15.1 project with STEP 7 V15.1.

Ordering data

Article No.

STEP 7 Professional V15.1

Target system:
SIMATIC S7-1200, S7-1500, S7-300, S7-400, WinAC

Requirement:
Windows 7 Home Premium SP1 (64-bit)
Windows 7 Professional SP1 (64-bit)
Windows 7 Enterprise SP1 (64-bit)
Windows 7 Ultimate SP1 (64-bit)
Windows 10 Home Version 1709, 1803
Windows 10 Professional Version 1709, 1803
Windows 10 Enterprise Version 1709, 1803
Windows 10 Enterprise 2016 LTSB
Windows 10 IoT Enterprise 2015 LTSB
Windows 10 IoT Enterprise 2016 LTSB
Windows Server 2012 R2 StdE (full installation)
Windows Server 2016 Standard (full installation)

Type of delivery:
en, de, fr, es, it, zh

STEP 7 Professional V15.1, floating license

6ES7822-1AA05-0YA5

STEP 7 Professional V15.1, floating license, software download incl. license key ¹⁾

6ES7822-1AE05-0YA5

Email address required for delivery

STEP 7 Professional V15.1/2017 Combo, floating license

6ES7810-5CC12-0YA5

STEP 7 Professional V15.1/2017 Combo, floating license, software download incl. license key ¹⁾

6ES7810-5CE12-0YB5

Email address required for delivery

STEP 7 Professional V15.1, trial license

6ES7822-1AA05-0YA7

STEP 7 Professional V15.1 conversion package

Only valid if ordered together with Software Update Service 6ES7 810-5CC04-0YE2 (STEP 7 Professional and STEP 7 Professional in TIA Portal).

- Powerpack and upgrade STEP 7 V5.6 to STEP 7 Professional V15.1/2017 Combo, floating license. STEP 7 Software Update Service is a prerequisite.
- Powerpack and upgrade from STEP 7 V5.6 to STEP 7 Professional V15.1/2017 Combo, floating license. STEP 7 Software Update Service is a prerequisite. Software download including license key ¹⁾ Email address required for delivery

6ES7822-1AA05-0XC2

6ES7822-1AE05-0XC2

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

Ordering data	Article No.	Article No.
Upgrade STEP 7 Professional V11...14 to STEP 7 Professional V15.1 or STEP 7 Professional V11...V14/201x Combo to V15.1/2017 Combo or STEP 7 Professional 2006...2010 to V15.1/2017 Combo, floating license	6ES7822-1AA05-0YE5	
Upgrade STEP 7 Professional V11...14 to STEP 7 Professional V15.1 or STEP 7 Professional V11...V14/201x Combo to V15.1/2017 Combo or STEP 7 Professional 2006...2010 to V15.1/2017 Combo, floating license Software download incl. license key¹⁾ Email address required for delivery	6ES7822-1AE05-0YE5	
Powerpack STEP 7 Professional V15.1 Trial 365 to STEP 7 Prof. V15.1, floating license. Only valid if ordered together with Software Update Service 6ES7822-1AE00-0YY0 (STEP 7 Professional V1x) Prerequisite is a STEP 7 V15 Trial 365 license. License key download ¹⁾ Email address required for delivery	6ES7822-1BE05-0YC5	
50 hours of engineering with STEP 7 Professional Combo, WinCC Professional (incl. WinCC flexible 2008) and STEP 7 Safety Advanced (incl. Distributed Safety), floating license Software download incl. license key¹⁾ Email address required for delivery	6ES7823-1GE05-0YA5	
Powerpack and upgrade from STEP 7 V5.4...V5.6 to STEP 7 Professional V15.1/2017 Combo, floating license	6ES7822-1AA05-0XC5	
Powerpack and upgrade from STEP 7 V5.4...V5.6 to STEP 7 Professional V15.1/2017 Combo, floating license Software download incl. license key¹⁾ Email address required for delivery	6ES7822-1AE05-0XC5	
		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 software package. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration. Requires the current software version
		Software Update Service (Standard Edition)²⁾ 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.) <ul style="list-style-type: none"> STEP 7 Professional in the TIA Portal 6ES7822-1AA00-0YL5 STEP 7 Professional and STEP 7 Professional in the TIA Portal 6ES7810-5CC04-0YE2
		Software Update Service (Compact Edition)²⁾ 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. <ul style="list-style-type: none"> STEP 7 Professional in the TIA Portal 6ES7822-1AA00-0YM5 STEP 7 Professional and STEP 7 Professional in the TIA Portal 6ES7810-5CC00-0YM2
		Software Update Service (download)²⁾: Upgrades and Service Packs are available for downloading. Email address required for delivery <ul style="list-style-type: none"> STEP 7 Professional V1x 6ES7822-1AE00-0YY0 STEP 7 Professional and STEP 7 Professional in the TIA Portal 6ES7810-5CC04-0YY2

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

²⁾ For more information on the Software Update Service, see page 11/2.

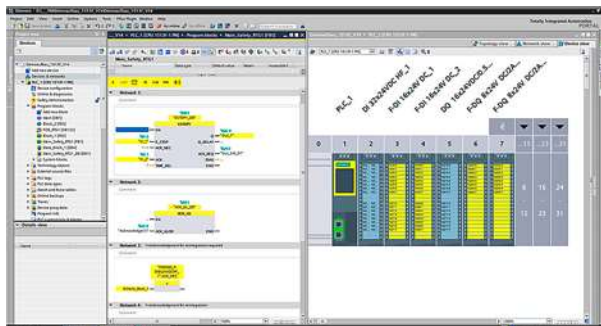
Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 (TIA Portal) options > STEP 7 Safety (TIA Portal)

Overview



STEP 7 Safety Advanced, configuration and programming

- For creating safety-related programs on the STEP 7 user interface
- For seamless and easy to use integration of safety-related functions into the standard automation
- All the required configuration and programming tools are integrated into the STEP 7 user interface and utilize a common project structure
- STEP 7 Safety Basic option package for parameter assignment and programming of the fail-safe S7-1200
- STEP 7 Safety Advanced option package for all fail-safe TIA SIMATIC controller classes (S7-1200, S7-1500, S7-1500 software controller, S7-300, S7-400, WinAC)

Licensing

- The engineering 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).
- STEP 7 Safety Basic is a subset of STEP 7 Safety Advanced for programming the fail-safe S7-1200 F Basic Controller.
- Powerpacks can be used to upgrade an existing STEP 7 Safety Basic license.
- Combo licenses allow you to choose between programming with the predecessor product S7 Distributed Safety and STEP 7 Safety Advanced.
- An upgrade to a combo license is offered for the latest version of S7 Distributed Safety.
- Software Update Service (SUS) contracts can be concluded for both STEP 7 Safety Basic and STEP 7 Safety Advanced.

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>

Ordering data

Article No.

STEP 7 Safety Advanced V15.1

Task:

Engineering tool for configuring and programming fail-safe user programs for SIMATIC S7-1200 FC, S7-1500F, S7-1500F Software Controller, S7-300F, S7-400F, WinAC RTX F, ET 200SP F Controller and the fail-safe ET 200SP, ET 200MP, ET 200S, ET 200M, ET 200iSP, ET 200pro and ET 200eco I/O

Requirement:

STEP 7 Professional V15.1

Floating license for 1 user, software and documentation on DVD; license key on USB flash drive

6ES7833-1FA15-0YA5

Floating license for 1 user, software, documentation and license key for download²⁾; email address required for delivery

6ES7833-1FA15-0YH5

Software Update Service (Standard Edition)¹⁾

6ES7833-1FC00-0YX2

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.). Requires the current software version.

Software Update Service (Compact Edition)¹⁾

6ES7833-1FC00-0YM2

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. The deliveries that are to be grouped together must be ordered as a single item. Requires the current software version.

Minimum order quantity: 3 units

Software Update Service (Download)¹⁾

6ES7833-1FC00-0YY0

Requires the current software version.

Email address required for delivery.

¹⁾ For more information on the Software Update Service, see page 11/2.

²⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

Ordering data	Article No.	Article No.
<p>STEP 7 Safety Advanced Upgrade</p> <p>Upgrade from Distributed Safety V5.4 SP5 or STEP 7 Safety Advanced V11..V14 (Combo) to STEP 7 Safety Advanced V15.1 (Combo) for parallel use of versions; upgrade of combo license for 1 user; software and documentation on DVD, license key on USB flash drive</p> <p>Upgrade from Distributed Safety V5.4 SP5 or STEP 7 Safety Advanced V11..V14 (Combo) to STEP 7 Safety Advanced V15.1 (Combo) for parallel use of versions; upgrade of combo license for 1 user; software, license key and documentation for download²; email address required for delivery</p>	<p>6ES7833-1FA15-0YF5</p> <p>6ES7833-1FA15-0YY5</p>	<p>STEP 7 Safety Basic Upgrade</p> <p>Upgrade from STEP 7 Safety Basic V13 SP1...V14 to STEP 7 Safety Basic V15.1 for parallel use of versions; upgrade license for 1 user; software and documentation on DVD, license key on USB flash drive</p> <p>Upgrade from STEP 7 Safety Basic V13 SP1...V14 to STEP 7 Safety Basic V15.1 for parallel use of versions; upgrade license for 1 user; software, license key and documentation for download²; email address required for delivery</p> <p><u>Software Update Service (Standard Edition)</u>¹⁾</p> <p>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.). Requires the current software version.</p> <p><u>Software Update Service (Compact Edition)</u>¹⁾</p> <p>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. The deliveries that are to be grouped together must be ordered as a single item. Requires the current software version.</p> <p>Minimum order quantity: 3 units</p> <p><u>Software Update Service (Download)</u>¹⁾</p> <p>Requires the current software version.</p> <p>Email address required for delivery.</p>
<p>STEP 7 Safety Advanced Powerpack</p> <p>Powerpack STEP 7 Safety Basic V15.1 to STEP 7 Safety Advanced V15.1; floating license for 1 user; license key on USB flash drive</p> <p>Powerpack STEP 7 Safety Basic V15.1 to STEP 7 Safety Advanced V15.1; floating license for 1 user; license key for download²; email address required for delivery</p>	<p>6ES7833-1FA15-0YC5</p> <p>6ES7833-1FA15-0YJ5</p>	<p>6ES7833-1FB15-0YE5</p> <p>6ES7833-1FB15-0YK5</p> <p>6ES7833-1FD00-0YX2</p> <p>6ES7833-1FD00-0YM2</p> <p>6ES7833-1FD00-0YN2</p>
<p>STEP 7 Safety Advanced V15.1 Trial</p> <p>Trial license, valid for 21 days; software and documentation on DVD; executable with TIA Portal V15.1 from STEP 7 Professional V15.1; for configuring S7-1200 FC, S7-1500F, S7-1500F Software Controllers, S7-300F, S7-400F, WinAC F; delivery also includes STEP 7 Safety Advanced V15 DVD</p>	<p>6ES7833-1FA15-0YA8</p>	
<p>STEP 7 Safety Basic V15.1</p> <p>Task: Engineering tool for configuring fail-safe user programs for SIMATIC S7-1200 FC</p> <p>Requirement: STEP 7 Basic V15.1 and higher</p> <p>Floating license for 1 user, software and documentation on DVD, license key on USB flash drive</p> <p>Floating license for 1 user, software, documentation and license key for download²; email address required for delivery</p>	<p>6ES7833-1FB15-0YA5</p> <p>6ES7833-1FB15-0YH5</p>	

¹⁾ For more information on the Software Update Service, see page 11/2.

²⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 (TIA Portal) options > S7-PLCSIM Advanced

Overview

With SIMATIC S7-PLCSIM Advanced, virtual controllers can be used for simulation of S7-1500 and ET 200SP controllers and for extensive function simulation.

The virtual controllers can also be tested and validated in conjunction with a plant/machine. An extensive API is available for interfacing plant/machine simulations.

New with V2.0 SP1

- The Control Panel can be used via a quick view or a freely movable Windows window. Advantages of the freely movable Windows window:
 - The Control Panel can always be displayed in the foreground (single click pin to desktop)
 - SIMATIC Memory Cards from previously created instances can easily be moved to the Control Panel via drag & drop. This facilitates the creation of new instances.
- Using the API, you can select whether the maximum cycle time is to be observed or ignored – depending on the target of the simulation

New with V2.0

- Synchronization of PLCSIM Advanced with co-simulation tools to process image partitions of cyclic OBs (e.g. cyclic interrupt OBs)
- Support of acyclic services (RDREC/WRREC) and interrupts (e.g. hardware interrupts)
- Hardware interrupts configured in the TIA Portal can be read over the API
- Easy backup and restoration of the software and hardware configuration from PLCSIM Advanced instances
- Parallel installation of PLCSIM from V15 and PLCSIM Advanced from V2.0 on one PC

Licensing

- The engineering 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 version 2.0 is offered for users of the previous version 1.0.
- 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 SW licenses with the Automation License Manager here:

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

Technical specifications

Minimum requirements for use

Hardware / software	Requirements
Processor	<ul style="list-style-type: none"> • One logical Intel Core™ i7-6820EQ for each started instance • At least one additional core for the operating system • At least one additional core for additional active applications
RAM	<ul style="list-style-type: none"> • 1 GB for each started instance • At least 4 GB for the Windows operating system • Additional RAM work memory according to the requirements of the remaining active applications
Free hard disk space	5 GB
Operating systems (64-bit version)	<ul style="list-style-type: none"> • Windows 7 Home Premium SP1 • Windows 7 Professional SP1 • Windows 7 Enterprise SP1 • Windows 7 Ultimate SP1 • Windows 10 Home Version 1709 & 1803 • Windows 10 Pro Version 1709 & 1803 • Windows 10 Enterprise Version 1709 & 1803 (for PG/PC) • Windows 10 Enterprise 2016 LTSB • Windows 10 IoT Enterprise 2016 LTSB • Windows Server 2012 R2 StdE (full installation) • Windows Server 2016 Standard (full installation)
Screen resolution	min. 1024 x 768

Compatibility with other products

PLCSIM Advanced V2.0 and PLCSIM from V15 can be installed and operated on the same PC or the same virtual machine. Communication between the two applications cannot be simulated.

Ordering data	Article No.	Article No.
<p>SIMATIC S7-PLCSIM Advanced V2.0 SP1</p> <p>Option for simulation of S7-1500 and ET 200SP</p> <p>Floating license, software and documentation on DVD; license key on USB flash drive</p> <p>Floating license, software, documentation and license key for download¹⁾</p> <p>Email address required for delivery</p>	<p>6ES7823-1FA01-0YA5</p> <p>6ES7823-1FE01-0YA5</p>	<p>Software Update Service²⁾</p> <p>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 software package. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration. Requires the current software version.</p> <p>Software Update Service: Upgrades and service packs are provided in the form of DVDs, USB flash drives etc.</p> <p>Software Update Service (download)¹⁾ Upgrades and service packs are available for downloading. Email address required for delivery</p>
<p>Upgrade</p> <p>Upgrade SIMATIC S7-PLCSIM Advanced V1.0 to V2.0 SP1, floating license</p> <p>Upgrade SIMATIC S7-PLCSIM Advanced V1.0 to V2.0 SP1, floating license for download¹⁾</p> <p>Email address required for delivery</p>	<p>6ES7823-1FA01-0YE5</p> <p>6ES7823-1FE01-0YE5</p>	<p>6ES7823-1FA00-0YL5</p> <p>6ES7823-1FE00-0YL5</p>

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

²⁾ For more information on the Software Update Service, see page 11/2.

Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 (TIA Portal) options > ODK 1500S

Overview

- For developing dynamically loadable function libraries for the S7-1500 Software Controllers and S7-1500 Advanced Controllers CPU 1518 MFP:
 - Implementation of function libraries that are executed under Windows with the high-level languages C/C++, C# and VB
 - Implementation of function libraries that are executed in real-time in the context of the user program of the CPU with the high-level language C++
 - Implementation of applications for the C++ runtime of the CPU 1518 MFP
- "Eclipse" development environment for real-time function libraries in the CPU user program and applications for the C++ runtime in the scope of supply.
- Development of library functions under Windows with MS Visual Studio (optional)
- Easy introduction to development by using basic projects via templates
- Automatic creation of function blocks for calling the library functions
- Simple integration of the function blocks into STEP 7 by importing.
- Simple use of the library functions in the controller without specific high-level language know-how.

Licensing

- ODK 1500S is supplied with a floating license. The floating license allows installation of the software on any number of computers. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 2.5 is offered for users of the previous versions 1.0 and 2.0.
- The integrated development environment Eclipse, required for developing real-time libraries, is included in the scope of supply of ODK 1500S as well as templates for Visual Studio.
- SIMATIC ODK 1500S is available as a standalone product or in a bundle with SIMATIC Target 1500S™ for Simulink®.

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>

Technical specifications

System requirements

The SIMATIC ODK 1500S can be used on PC platforms with the following requirements:

- Operating systems Windows 7/8.1/10
- Min. 3 GB hard disk memory
- Min. 4 GB work memory
- Mouse, keyboard, monitor

Ordering data

Article No.

SIMATIC ODK 1500S

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Software Controllers V2.0 or V2.1; single license; supplied on DVD

6ES7806-2CD02-0YA0

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Software Controllers V2.0 or V2.1; single license; software download ¹⁾

6ES7806-2CD02-0YG0

Email address required for delivery

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Advanced Controllers; supplied on DVD, license key (floating license) on USB flash drive

6ES7806-2CD03-0YA0

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Advanced Controllers; single license; software download including license key (floating license) ¹⁾

6ES7806-2CD03-0YG0

Email address required for delivery

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Advanced Controllers; upgrade for existing installations as from V1.0; software download including license key (floating license) ¹⁾

6ES7806-2CD03-0YK0

Email address required for delivery

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

Overview

The SIMATIC Target 1500S is an add-on for the Simulink® software from The MathWorks. This makes it possible to also use model-based design with MATLAB® and Simulink for SIMATIC S7-1500 controllers. For this purpose, executable code for all ODK-compatible S7-1500 controllers (S7-1500 Software Controllers, ET 200SP Open Controllers and CPU 1518 ODK/MFP) is generated directly from Simulink via the target 1500S.

New with V3.0

- Display of the Simulink model on the CPU web server (incl. monitoring and control of the current values of the model parameters)
- Once generated, the SO file is automatically transferred to the CPU
- Execution of the model and reading/writing of the model parameters in different OBs possible

Licensing

- The engineering 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)
- SIMATIC Target 1500S™ for Simulink® V3.0 is available as a standalone product or in a bundle with the SIMATIC S7-1500 Software Controller Open Development Kit
- An upgrade to latest versions is available for previous versions

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>

Technical specifications

Requirements at the MATLAB end

MATLAB 2017b (64-bit) or more recent version	<ul style="list-style-type: none"> • MATLAB 9.5 • MATLAB Coder 4.1 • Simulink 9.2 • Simulink Coder 9.0
--	--

Requirements at the SIMATIC end

SIMATIC ODK 1500S V2.0/V2.5	Must be installed together with target 1500S, MATLAB and Simulink on the same PC
STEP 7 Professional from V15	For configuration of the S7-1500 CPUs, not essentially on the same PC as the target 1500S
Supported CPUs	<ul style="list-style-type: none"> • CPU 1507S(F) with firmware V2.0 or higher • CPU 1515SP PC (F) with firmware V2.0 or higher • CPU 1518 (F) ODK/MFP

Ordering data

	Article No.
SIMATIC Target 1500S for Simulink V3.0 Download incl. license key ¹⁾ Email address required for delivery	6ES7823-1BE02-0YA5
Upgrade Upgrade of SIMATIC Target 1500S for Simulink V2.0 to V3.0, download incl. license key ¹⁾ Email address required for delivery	6ES7823-1BE02-0YE5
SIMATIC Target + ODK 1500S bundle Download incl. license key ¹⁾ Email address required for delivery	6ES7823-1BE12-0YA0

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

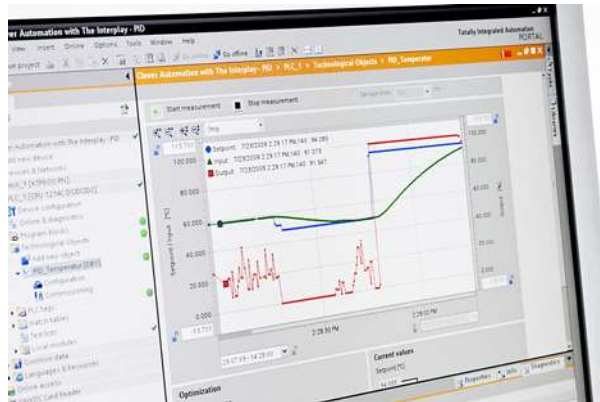
Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 (TIA Portal) options > PID Professional (TIA Portal)

Overview



- PID Professional combines the two option packages Modular PID Control and Standard PID Control in the TIA Portal.
- Permits the simple integration of continuous PID controllers, pulse controllers and step controllers in the application program
- Can be used for simple to complex closed-loop control tasks in SIMATIC S7-300 (CPU 313 or higher), S7-400, and WinAC.
- The engineering software for PID Professional is already included in the STEP 7 package in V13 or higher.
- Tuning functionality by means of PID Self-Tuner (part of STEP 7 as of V11 SP1).
- Reduces engineering costs thanks to time-saving parameterization and optimization of the controller

Licensing

- The engineering 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).
- The Engineering Software requires STEP 7 Professional, the software is part of the STEP 7 Professional DVD and/or the program download. A license key is required for activation.
- During runtime, each CPU requires its own runtime license.
- Upgrades to PID Professional (engineering license or single runtime license) are offered for standard PID Control/Modular PID Control from V11 onwards.

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>

Ordering data

Article No.

PID Professional for TIA Portal

Task:

Function blocks and editors for PID controllers

Requirement:

STEP 7 V13 or higher

Delivery package:

Licenses on USB flash drive/
downloadable

Floating license for the engineering and single license for runtime

6ES7860-1XA02-0XA5

Single license (Certificate of License) for runtime; per CPU (all versions)

6ES7860-1XA01-0XB0

Floating license for the engineering; download (email address required for delivery)¹⁾

6ES7860-1XA01-0XH5

Upgrade from Standard PID Control or Modular PID Control V5.1 to PID Professional for TIA Portal; floating license for the engineering; download (email address required for delivery)¹⁾

6ES7860-1XA01-0XK5

Upgrade from Standard PID Control or Modular PID Control V5.1 to PID Professional for TIA Portal; single license for runtime

6ES7860-1XA02-0XE5

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

Overview



- Low-priced package for simple, controlled positioning and simple geared synchronous motion
- For use with any standard variable-speed drive, such as frequency converter or servo drive
- For incremental and absolute encoders

Licensing

- The engineering 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).
- The Engineering Software requires STEP 7 Professional, the software is part of the STEP 7 Professional DVD and/or the program download. A license key is required for activation.
- During runtime, each CPU requires its own runtime 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>

Technical specifications

Supported hardware:

Easy Motion Control is runnable on the following CPUs:

- S7-300.
- S7-400.
- WinAC.
- ET 200S.
- ET 200pro.

Supported modules for the measuring of actual values:

- CPU 314C (FW version 2.0 of the CPU or higher).
- ET 200S 1 Count 5V/500 kHz.
- ET 200S 1 Count 24V/100kHz.
- ET 200S 1SSI.
- SM 338.
- FM 350-1, FM 450-1.
- SIMODRIVE sensor with PROFIBUS DP.
- IM 174.
- Other modules for measuring actual values (using free driver).

Supported modules for setpoint output:

- ET 200S 2AO U.
- SM 332.
- SM 432.
- IM 174.
- Other modules for setpoint output (using free driver).

Supported drives using PROFIBUS DP:

- Micromaster 4.
- SINAMICS G120.
- SINAMICS S120.

Storage space requirements

Required work memory in bytes		
Block	Required work memory per block	Additional work memory required per instance
MC_Init	1086	-
MC_MoveAbsolute	3924	112
MC_MoveRelative	2982	110
MC_MoveJog	3110	110
MC_Home	2886	104
MC_StopMotion	1114	70
MC_Control	1756	58
MC_Simulation	410	64
MC_GearIn	3476	128
Input driver	1416 ... 2654	76 ... 128
Output driver	384 ... 1242	52 ... 68
Axis data block	-	294

Ordering data

Article No.

Easy Motion Control for TIA Portal

Requirement:
STEP 7 from V12 SP1;
software included in STEP 7 V13

Floating license and single license (Runtime)

Type of delivery:
CoL for the configuration software,
USB flash drive with a license key for the configuration software,
CoL for a runtime license; without software or documentation

Floating license download by email, valid for V11 or higher (email address required for delivery¹⁾); without software or documentation

Easy Motion Control Runtime License

Type of delivery:
CoL for one runtime single license (valid for Easy Motion Control V2.x and V11 or higher), without software or documentation

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

	6ES7864-2XA02-0XA5
	6ES7864-2XA01-0XH5
	6ES7864-0AF01-0YX0

Software for SIMATIC Controllers

TIA Portal

PLC programming

STEP 7 (TIA Portal) options > OPC UA S7-1500

Overview

The vendor- and platform-independent OPC Unified Architecture (UA) is the communication standard for Industrie 4.0 and is the standard mechanism for accessing S7-1500 data from non-Siemens devices.

Licensing

An OPC UA server or OPC UA client is available on the target systems (CPUs) and is activated using runtime licenses. Runtime licenses are offered in three levels for different target systems:

Target system	OPC UA S7-1500 Small	OPC UA S7-1500 Medium	OPC UA S7-1500 Large
ET 200SP CPU 1510SP/1512SP/1515SP (Open Controller) S7-1500 CPU 1511/1513	Yes	Yes	Yes
ET 200pro CPU 1516pro S7-1500 CPU 1515/1516 Software PLC 1507S	No	Yes	Yes
S7-1500 CPU 1517/1518/1508S	No	No	Yes

The runtime license includes the certificate for OPC UA (server and client) and can be run on the respective target systems including F, C and T/TF as from firmware V2.0 (client V2.6).

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>

Technical specifications

Can be used for

SIMATIC OPC UA S7-1500	For all S7-1500 CPUs and ET200SP CPUs with FW V2.0 and higher (incl. S/F/T versions) and PLCSIM Advanced
------------------------	--

Ordering data

Article No.

SIMATIC OPC UA S7-1500 Small

Single runtime license; can run on ET 200SP CPU 1510SP/1512SP/1515SP (Open Controller), S7-1500 CPU 1511/1513

License certificate for OPC UA server (data access and OPC UA client)

6ES7823-0BA00-1BA0

Download incl. license certificate for OPC UA server (data access and OPC UA client) ¹⁾

6ES7823-0BE00-1BA0

Email address required for delivery

SIMATIC OPC UA S7-1500 Medium

Single runtime license; can run on ET 200pro CPU 1516pro, ET 200SP CPU 1510SP/1512SP/1515SP (Open Controller), S7-1500 CPU 1511/1513/1515/1516, Software PLC 1507S

License certificate for OPC UA server (data access and OPC UA client)

6ES7823-0BA00-1CA0

Download incl. license certificate for OPC UA server (data access and OPC UA client) ¹⁾

6ES7823-0BE00-1CA0

Email address required for delivery

SIMATIC OPC UA S7-1500 Large

Single runtime license; can run on ET 200pro CPU 1516pro, ET 200SP CPU 1510SP/1512SP/1515SP (Open Controller), S7-1500 CPU 1511/1513/1515/1516/1517/1518, Software PLC 1507S

License certificate for OPC UA server (data access and OPC UA client)

6ES7823-0BA00-1DA0

Download incl. license certificate for OPC UA server (data access and OPC UA client) ¹⁾

6ES7823-0BE00-1DA0

Email address required for delivery

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

Overview

TIA Portal Multiuser Engineering allows several users to work on the same project simultaneously. This results in a significant reduction in configuration times, and projects can be commissioned faster.

The basic principle:

The project administration is handled by an autonomous server application. This can be installed independent of a TIA Portal.

New with V15

- Automatic selecting of multiuser objects
- Working offline is possible with Multiuser Engineering
- Extended check-in and comment functions
- Project server with extended change history and restoration functions

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).
- The software is part of the STEP 7/WinCC (TIA Portal) DVD and/or of the program download, a license key is required for activation.
- An upgrade to version V15 is offered for users of the previous version V14.
- 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 SW licenses with the Automation License Manager here:

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

Ordering data**Article No.****TIA Portal Multiuser Engineering V15**

Software is component of STEP 7 / WinCC as of V15. Only the Certificates of License (CoL) are delivered with the license.

Data storage medium package, floating license, license key on USB flash drive

6ES7823-1AA05-0YA5

Download incl. license key, floating license; license key for download ¹⁾

6ES7823-1AE05-0YA5

Email address required for delivery

Upgrade

Software is component of STEP 7 / WinCC as of V15. Only the Certificates of License (CoL) are delivered with the license.

Upgrade TIA Portal Multiuser Engineering V14 to V15, floating license; license key on USB flash drive

6ES7823-1AA05-0YE5

Upgrade TIA Portal Multiuser Engineering V14 to V15, floating license; license key for download ¹⁾

6ES7823-1AE05-0YE5

Email address required for delivery

Software Update Service ²⁾

Data storage medium package

6ES7823-1AA00-0YL5

Download ¹⁾

6ES7823-1AE00-0YL5

Email address required for delivery

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

²⁾ For more information on the Software Update Service, see page 11/2.

Software for SIMATIC Controllers

TIA Portal

TIA Portal options

TIA Portal Cloud Connector

Overview

The TIA Portal Cloud Connector enables access to local PG/PC interfaces and connected SIMATIC hardware from the TIA Portal Engineering while the engineering is taking place via a remote desktop on a server of a private cloud.

Licensing

- The "Special Terms for the Use of Software with the TIA Portal Cloud Connector" apply for software for use with separately licensed TIA Portal products that have been released for use with the Cloud Connector
<https://support.industry.siemens.com/cs/ww/en/view/109739390>
- The software is part of the STEP 7/WinCC (TIA Portal) DVD and/or the program download.

Ordering data

Article No.

TIA Portal Cloud Connector

Single license;
software is component of
STEP 7 / WinCC V14 and higher.
Only the Certificates of License
(CoL) are delivered with the license.

- Data storage medium package
- Download including license key ¹⁾
Email address required for
delivery

6ES7823-1CA00-0YA0
6ES7823-1CE00-0YA0

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

Overview

The Teamcenter Gateway permits storage and management of TIA Portal projects and global libraries in Teamcenter. Program handling is integrated into the TIA Portal.

Licensing

- Please note the compatibility of the installed program versions for the operation of the Teamcenter Gateway.
- 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 version V15 is offered for users of the previous version V14.
- 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 SW licenses with the Automation License Manager here:

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

Technical specifications

Can be used with:

- TIA Portal with V14 or higher
- Teamcenter V11

Ordering data

Article No.

TIA Portal Teamcenter Gateway

Data storage medium package, floating license, license key on USB flash drive

6ES7823-1EA05-0YA5

Download incl. license certificate and license key for TIA Portal Teamcenter Gateway V15, floating license¹⁾

6ES7823-1EE05-0YA5

Email address required for delivery

Upgrade

Upgrade TIA Portal Teamcenter Gateway V14 to V15, floating license

6ES7823-1EA05-0YE5

Upgrade TIA Portal Teamcenter Gateway V14 to V15, floating license; license key for download¹⁾;

6ES7823-1EE05-0YE5

Email address required for delivery

Software Update Service²⁾

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 software package. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration. Requires the current software version

Data storage medium package

6ES7823-1EA00-0YL5

Download¹⁾

6ES7823-1EE00-0YL5

Email address required for delivery

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

²⁾ For more information on the Software Update Service, see page 11/2.

Software for SIMATIC Controllers

TIA Portal

TIA Portal options

SIMATIC Visualization Architect

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

Solution:

- Automatic generation and creation of the visualizations, based on the program code of the controller 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 version V15.1 is offered to users of the previous version V14
- 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 SW licenses with the Automation License Manager here:

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

Technical specifications

SIMATIC Visualization Architect	
Operating system requirements	In accordance with the requirements of the TIA Portal components: <ul style="list-style-type: none"> • SIMATIC STEP 7 (TIA Portal) • SIMATIC WinCC Professional, Advanced, Comfort, Basic
Supported STEP 7 version	SIMATIC STEP 7 V15.1
Supported WinCC versions	SIMATIC WinCC V15.1 Professional, Advanced, Comfort, Basic

Ordering data

Article No.

SIMATIC Visualization Architect V15.1

As package

- SIMATIC Visualization Architect V15.1
- SIMATIC Visualization Architect V15.1 Rental
- SIMATIC Visualization Architect V15.1 Trial
Download in Customer Support Portal

6AV2107-0PX05-0AA5

6AV2107-0PX05-0AA6

6AV2107-0PX05-0AA7

Download ¹⁾

- SIMATIC Visualization Architect V15.1
- SIMATIC Visualization Architect V15.1 Rental

6AV2107-0PX05-0AH5

6AV2107-0PX05-0AH6

Upgrade SIMATIC Visualization Architect V14 -> V15.1

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

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

6AV2107-3PX05-0AA5

6AV2107-3PX05-0AH5

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

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 monitoring operations for multiple CPUs or an unlimited number of monitoring operations for a single 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 SW licenses with the Automation License Manager here:

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

Technical specifications

Can be used for

SIMATIC ProDiag S7-1500	For all S7-1500 CPUs and ET 200SP CPUs with FW V2.0 and higher
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Ordering data

Article No.

SIMATIC ProDiag S7-1500 for 250 monitoring functions

For SIMATIC S7-1500 CPUs and ET 200SP CPUs with FW 2.0 and higher. Independent of the TIA Portal version.

Package with data storage medium

6ES7823-0AA00-1AA0

Download incl. license key¹⁾

6ES7823-0AE00-1AA0

Email address required for delivery

SIMATIC ProDiag for SIMATIC Comfort / Mobile Panels

Controls for SIMATIC WinCC as of V14.

Package with data storage medium

6AV2107-0UP00-0BB0

Download incl. license key¹⁾

6AV2107-0UP00-0BH0

Email address required for delivery

SIMATIC ProDiag for WinCC Runtime Advanced

Controls for SIMATIC WinCC as of V14.

Package with data storage medium

6AV2107-0UA00-0BB0

Download incl. license key¹⁾

6AV2107-0UA00-0BH0

Email address required for delivery

SIMATIC ProDiag for WinCC Runtime Professional

Controls for SIMATIC WinCC as of V14

Package with data storage medium

6AV2107-0UB00-0BB0

Download incl. license key¹⁾

6AV2107-0UB00-0BH0

Email address required for delivery

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

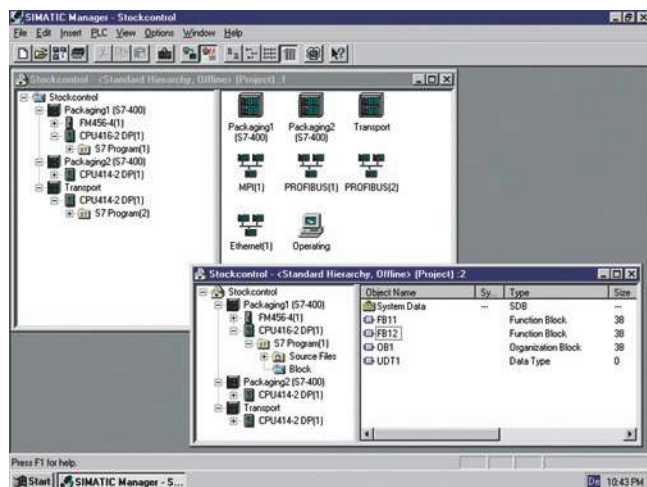
Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7

Overview



- Basic software STEP 7:
The standard tool for the SIMATIC S7, SIMATIC C7 and SIMATIC WinAC automation systems.
- For fully utilizing the performance capability of the systems.
- With user-friendly functions for all phases of an automation project:
 - Configuration and parameter assignment of the hardware
 - Specifying the communication
 - Programming
 - Testing, commissioning and service
 - Documentation, archiving
 - Operating, diagnostic functions

Note

The STEP 7 (TIA Portal) engineering software is required to program the new S7-1200, S7-1500, ET 200SP CPU and S7-1500 Software Controller generation; it can also be used for programming the S7-300, S7-400 and SIMATIC WinAC.

Siemens offers a combo license for both platforms which enables you to work using both STEP 7 (TIA Portal) as well as traditional engineering software. See "STEP 7 Professional" for more information.

Licensing

- STEP 7 V5.6 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).
- A 50 h rental license is available for limited use.
- An upgrade to version V5.6 is available for users of the previous V5.3...5.5 versions.
- A trial license is available for testing purposes.

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>

Technical specifications PC adapter USB A2

Article number	6GK1571-0BA00-0AA0
Product type designation	PC adapter USB A2
Transmission rate	
Transfer rate	9.6 kbit/s ... 12 Mbit/s
• at the 1st interface acc. to PROFIBUS	
Interfaces	
Number of electrical connections	1
• at the 1st interface acc. to PROFIBUS	
Number of interfaces acc. to USB	1
Type of electrical connection	9-pin Sub-D socket (RS 485)
• at the 1st interface acc. to PROFIBUS	
• of the USB interface	Standard-B socket
Standard for interfaces USB 2.0	Yes
Supply voltage, current consumption, power loss	
Type of voltage of the supply voltage	DC
Type of voltage supply optional external supply	No
Supply voltage	5 V
• from USB	
• Note	Supply direct from USB
Relative symmetrical tolerance at DC	5 %
• at 5 V	
Consumed current	0.2 A
• from USB	
Power loss [W]	1 W
Permitted ambient conditions	
Ambient temperature	0 ... 60 °C
• during operation	
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity at 30 °C during operation maximum	95 %
Protection class IP	IP20
Design, dimensions and weight	
(unit format)	USB V2.0 adapter
Width	58 mm
(height)	26 mm
Depth	105 mm
(net weight)	365 g
Mounting type 35 mm DIN rail mounting	No
Number of plug-in cards of same design plug-in per PC station	1
Number of units Note	-
Performance data	
Product functions Diagnosis	
Product function	
• Port diagnostics	Yes
Standards, specifications, approvals	
Standard	
• for EMC	2004/108/EC
• for safety from CSA and UL	cULus, UL 60950-1, CSA22.2
• for emitted interference	EN 61000-6-3, EN 61000-6-4
• for interference immunity	EN 61000-6-1, EN 61000-6-2
Certificate of suitability	
• CE marking	Yes
• C-Tick	Yes

Ordering data	Article No.	Article No.
STEP 7 Version 5.6 Target system: SIMATIC S7-300/400, SIMATIC C7 Requirement: Windows 7 SP1, Windows 10 Professional/Enterprise, Windows Server 2008 R2 SP1, Windows Server 2012 R2, Windows Server 2016 Type of delivery: German, English, French, Spanish, Italian; incl. license key on USB flash drive, with electronic documentation Floating license on DVD Floating license, download ¹⁾ ; Software, license key and documentation as download; email address required for delivery Rental license for 50 hours; Software and documentation on DVD, license key on USB flash drive Rental license for 50 hours, download ¹⁾ ; Software, license key and documentation as download; email address required for delivery Floating license upgrade V5.3...5.5 to V5.6; on DVD STEP 7 V5.6 trial license On DVD, operational for 21 days	6ES7810-4CC11-0YA5 6ES7810-4CE11-0YB5 6ES7810-4CC11-0YA6 6ES7810-4CE11-0YB6 6ES7810-4CC11-0YE5 6ES7810-4CC11-0YA7	SIMATIC Manual Collection Electronic manuals on DVD, multi-language: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC SIMATIC Manual Collection update service for 1 year Current "Manual Collection" DVD and the three subsequent updates EPROM programming device, USB prommer For programming SIMATIC Memory Cards and EPROM modules MPI cable For linking SIMATIC S7 and PG through MPI (5 m) Components for connecting a PC to MPI and PROFIBUS For PCs with a free PCI slot CP 5612 For PCs without a free PCI slot USB A2 PC adapter for connecting a PG/PC or Notebook to PROFIBUS or MPI; USB cable included in scope of supply Components for connecting the PC to Industrial Ethernet For PCs with a free PCI slot Layer 2 Ethernet cards
STEP 7 Version 5.6 Japanese Target system: SIMATIC S7-300/400, SIMATIC C7, SIMATIC WinAC Requirement: Windows 7 SP1, Windows 10 Professional/Enterprise, Windows Server 2008 R2 SP1, Windows Server 2012 R2, Windows Server 2016 Type of delivery: English, Japanese; incl. license key on USB flash drive, with electronic documentation Floating license Japanese on DVD Upgrade floating license Japanese 3.x/4.x/5.x to V5.5; on DVD	6ES7810-4CC11-0JA5 6ES7810-4CC11-0JE5	6ES7998-8XC01-8YE0 6ES7998-8XC01-8YE2 6ES7792-0AA00-0XA0 6ES7901-0BF00-0AA0 6GK1561-2AA00 6GK1571-0BA00-0AA0
STEP 7 Version 5.6, Chinese Target system: SIMATIC S7-300/400, SIMATIC C7 Requirement: Windows 7 SP1, Windows 10 Professional/Enterprise, Windows Server 2008 R2 SP1, Windows Server 2012 R2, Windows Server 2016 Type of delivery: English, Chinese; incl. license key on USB flash drive, with electronic documentation Floating license Chinese on DVD Floating license upgrade Chinese 5.x to V5.6; on DVD	6ES7810-4CC11-0KA5 6ES7810-4CC11-0KE5	

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

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7 Professional

Overview



STEP 7 Professional supports all IEC languages.

In addition to the languages familiar from STEP 7:

- LAD
- FBD
- STL,

the following are also available:

- Sequential function chart
- Structured text

An offline simulation of user programs created with these languages is included. STEP 7 Professional thus replaces the combination of the individual packages STEP 7, S7-GRAPH, S7-SCL and S7-PLCSIM.

A Powerpack (conversion package) is available for customers who use STEP 7 already and wish to change. A valid STEP 7 license is required for purchasing the POWERPACK. A separate update service can be purchased for STEP 7 Professional.

Note

The STEP 7 (TIA Portal) engineering software is required to program the new generation of S7-1200, S7-1500 and ET 200SP CPU controllers as well as the S7-1500 Software Controller; it can also be used for programming the S7-300, S7-400 and SIMATIC WinAC.

Siemens offers a combo license for both platforms which enables you to work using both STEP 7 (TIA Portal) as well as traditional engineering software. See "Licensing" for more information.

Licensing

- New installations of STEP 7 Professional 2017 are only available as combo licenses together with STEP 7 Professional V15 (TIA Portal). 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).
- A 50 h rental license is available for limited use.
- An upgrade to V15/2017 Combo is available for users of the previous STEP 7 Professional 2006...2010 versions.
- Powerpack and upgrade enable migration from STEP 7 V5.6 to STEP 7 Professional V15/2017 Combo.
- 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 SW licenses with the Automation License Manager here:

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

Technical specifications PC adapter USB A2

Article number	6GK1571-0BA00-0AA0
Product type designation	PC adapter USB A2
Transmission rate	
Transfer rate	
• at the 1st interface acc. to PROFIBUS	9.6 kbit/s ... 12 Mbit/s
Interfaces	
Number of electrical connections	
• at the 1st interface acc. to PROFIBUS	1
Number of interfaces acc. to USB	1
Type of electrical connection	
• at the 1st interface acc. to PROFIBUS	9-pin Sub-D socket (RS 485)
• of the USB interface	Standard-B socket
Standard for interfaces USB 2.0	Yes

Article number	6GK1571-0BA00-0AA0
Product type designation	PC adapter USB A2
Supply voltage, current consumption, power loss	
Type of voltage of the supply voltage	DC
Type of voltage supply optional external supply	No
Supply voltage	
• from USB	5 V
• Note	Supply direct from USB
Relative symmetrical tolerance at DC	
• at 5 V	5 %
Consumed current	
• from USB	0.2 A
Power loss [W]	1 W
Permitted ambient conditions	
Ambient temperature	
• during operation	0 ... 60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity at 30 °C during operation maximum	95 %
Protection class IP	IP20

Technical specifications (continued)

Article number	6GK1571-0BA00-0AA0
Product type designation	PC adapter USB A2
Design, dimensions and weight	
(unit format)	USB V2.0 adapter
Width	58 mm
(height)	26 mm
Depth	105 mm
(net weight)	365 g
Mounting type 35 mm DIN rail mounting	No
Number of plug-in cards of same design plug-in per PC station	1
Number of units Note	-
Performance data	
Product functions Diagnosis	
Product function	
• Port diagnostics	Yes

Article number	6GK1571-0BA00-0AA0
Product type designation	PC adapter USB A2
Standards, specifications, approvals	
Standard	
• for EMC	2004/108/EC
• for safety from CSA and UL	cULus, UL 60950-1, CSA22.2
• for emitted interference	EN 61000-6-3, EN 61000-6-4
• for interference immunity	EN 61000-6-1, EN 61000-6-2
Certificate of suitability	
• CE marking	Yes
• C-Tick	Yes

Ordering data**Article No.****Article No.****STEP 7 Professional 2017/V15**

Target system:
SIMATIC S7-300/400, SIMATIC C7,
SIMATIC WinAC

Requirement:

Windows Server 2008 R2 SP1
Windows Server 2012 R2
Windows Server 2016
Windows 7 SP1
Windows 10 Professional
Windows 10 Enterprise

Type of delivery:

English, German, French, Spanish,
Italian;
license key on USB flash drive,
with electronic documentation

Floating combo license on DVD**6ES7810-5CC12-0YA5****Floating license, license key download²⁾****6ES7810-5CE12-0YB5**

without software and
documentation;
email address required for delivery

Rental license for 50 hours, license key download²⁾**6ES7823-1GE05-0YA5**

without software and
documentation;
email address required for delivery

**Conversion package
STEP 7 Professional V15**

Only valid if ordered together with
Software Update Service
6ES7810-5CC04-0YE2
(STEP 7 Professional and
STEP 7 Professional in TIA Portal).

• Powerpack & upgrade from
STEP 7 V5.6 to
STEP 7 Professional V15/2017
Combo, floating license.
STEP 7 Software Update Service
must be available.

6ES7822-1AA05-0XC2

• Powerpack & upgrade from
STEP 7 V5.6 to
STEP 7 Professional V15/2017
Combo, floating license.
STEP 7 Software Update Service
must be available.
Software download including
license key²⁾
Email address required for
delivery

6ES7822-1AE05-0XC2

**Upgrade
STEP 7 Professional V11...14 to
STEP 7 Professional V15 or
STEP 7 Professional V11...V14/
201x Combo to V15/2017 Combo
or
STEP 7 Professional 2006...2010
to V15/2017 Combo,
floating license**

6ES7822-1AA05-0YE5

**Upgrade
STEP 7 Professional V11...14 to
STEP 7 Professional V15 or
STEP 7 Professional V11...V14/
201x Combo to V15/2017 Combo
or
STEP 7 Professional 2006...2010
to V15/2017 Combo,
floating license
Software download incl.
license key²⁾**

6ES7822-1AE05-0YE5

Email address required for delivery

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7 Professional

Ordering data	Article No.		Article No.
Powerpack & upgrade from STEP 7 V5.4...V5.6 to STEP 7 Professional V15/2017 Combo, floating license	6ES7822-1AA05-0XC5		EPROM programming device, USB prommer 6ES7792-0AA00-0XA0 For programming SIMATIC Memory Cards and EPROM modules
STEP 7 Professional 2017 trial license; on DVD, runs for 21 days	6ES7810-5CC12-0YA7		MPI cable 6ES7901-0BF00-0AA0 For linking SIMATIC S7 and PG through MPI (5 m)
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 software package. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration. Requires the current software version			Components for connecting a PC to MPI and PROFIBUS For PCs with a free PCI slot
Software Update Service (Standard Edition)¹⁾ 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.) • STEP 7 Professional and STEP 7 Professional in the TIA Portal	6ES7810-5CC04-0YE2		CP 5612 6GK1561-2AA00 For PCs without a free PCI slot
Software Update Service (Compact Edition)¹⁾ The delivery items are combined. In future, 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 for multiple contracts. Delivery items to be combined must be ordered as one item. • STEP 7 Professional and STEP 7 Professional in the TIA Portal	6ES7810-5CC00-0YM2		USB A2 PC adapter 6GK1571-0BA00-0AA0 for connecting a PG/PC or Notebook to PROFIBUS or MPI; USB cable included in scope of supply
Software Update Service (download)¹⁾²⁾ The upgrades and service packs are available for downloading. Email address required for delivery • STEP 7 Professional and STEP 7 Professional in the TIA Portal	6ES7810-5CC04-0YY2		Components for connecting the PC to Industrial Ethernet For PCs with a free PCI slot Layer 2 Ethernet cards

¹⁾ For more information on the Software Update Service, see page 11/2.

²⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

Overview

```

FUNCTION_BLOCK FB27
VAR_INPUT
  SIG_SEL      : INT := 0;
  GRP1_SEL    : BOOL := 0;
  GRP2_SEL    : BOOL := 0;
  GRP3_SEL    : BOOL := 0;
END_VAR

VAR_OUTPUT
  SEL_OUT     : INT := 0;
  GRP1_OUT    : BOOL := 0;
  GRP2_OUT    : BOOL := 0;
  GRP3_OUT    : BOOL := 0;
END_VAR

VAR
  SELECT      : INT;
  MAX         : INT;
END_VAR

BEGIN
  SELECT := SIG_SEL;
  MAX := 3;
  IF SELECT < 0 THEN
    SELECT := -SELECT; //make it positive
  END_IF;
  IF SELECT > MAX THEN
    SELECT := MAX; //limit to MAX
  END_IF;
  SEL_OUT := SELECT;

```

- PASCAL-type high-level language
- Optimized for programming programmable controllers
- With PLCopen Base Level certificate
- For use in SIMATIC S7-300 (recommended for CPU 314 and CPU 312C), S7-400, C7 and WinAC



Licensing

- S7-SCL is an integral part of the STEP 7 Professional software package or is available as a stand-alone software product.
- S7-SCL V5.6 is delivered 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 from a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.6 is offered for users of the previous version 5.3.
- A separate update service can be purchased for S7-SCL.
- A trial license valid for 21 days is available for download from Industry Online Support:
<https://support.industry.siemens.com/cs/document/109748118>

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:

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

Technical specifications

Engineering Tool	S7-SCL
Current version	V5.3
Software class	A
Application areas	
Can be used for	Text-based high-level language programming of simple and complex calculations, CASE, loop, jump, and comparison functions
Marketing message	Programming of algorithms and calculations made easy!
Advantages	<ul style="list-style-type: none"> • Clear and easy-to-read programs • Functional, module-based programming • CASE instruction replaces a large number of jump and comparison functions • Easily understood by PLC programmers, as the programming philosophy of LAD/FBD/STL is retained • Easy switchover to PLC programming for PC programmers • Exchangeability (porting) of subroutines in accordance with IEC 61131-3 • Less time required for engineering compared to LAD/FBD/STL: Up to 20% for simple programs; at least 50% for demanding program structures
Sectors	<ul style="list-style-type: none"> • Labeling machines • Chemical plants (e.g. oxygen extraction, evaluation of measured values) • Rubber and plastics machines • Woodworking machines • Storage and logistics systems • Paper and printing machinery • Punching and cutting machines • Water industry • Coilers
Target systems	
Can be used in	S7-300 (CPU 313 or higher and CPU 312C or higher recommended) S7-400 C7 (C7-626 or higher recommended) WinAC
System prerequisites	
Operating system	Windows XP Professional Windows 7 Ultimate/Professional (S7-SCL V5.3 SP5 and higher)
Required hard drive memory in the PG/PC	50 MB
Required software	STEP 7 V5.4 or higher
Properties	
Monitoring tags	Yes
Controlling tags	Yes
Single-step processing	Yes
Integration in CFC	Yes

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-SCL

Technical specifications (continued)

Program runtimes	
with S7-300 (typical)	Similar to LAD/FBD/STL
with S7-400 (typical)	Similar to LAD/FBD/STL
Diagnostics	
Integration of diagnostic data in ProAgent	-
Integration of diagnostic data in ProTool/Pro	-
Integration of diagnostic data in WinCC	-
Supported standards	
IEC 61131-3	PLCopen certification <ul style="list-style-type: none"> • Base Level ST available • Reusability Level ST available
Available versions/licenses	
Floating license	CD-ROM with <ul style="list-style-type: none"> • Tool • Electronic manual • Getting Started guide • Examples License on USB flash drive Certificate of License Product information
Upgrade (floating license)	CD-ROM with <ul style="list-style-type: none"> • Tool • Electronic manual • Getting Started guide • Examples License on USB flash drive Certificate of License Product information
Software Update Service (SUS)	
Also a component part of	
STEP 7 Professional	Yes
S7 Trainer Package	Yes
PCS 7	Yes
D7-SYS	-

Ordering data

Article No.

SIMATIC S7-SCL, Version 5.6

Task:

High-level language programming

Target system:

SIMATIC S7-300 (CPU 314 or higher), SIMATIC S7-400, SIMATIC C7

Requirement:

STEP 7 V5.6 or higher; Windows 7 SP1, Windows 10 Professional/Enterprise, Windows Server 2008 R2 SP1, Windows Server 2012 R2, Windows Server 2016

Type of delivery:

on CD; German, English, French, Spanish, Italian; incl. authorization diskette, with electronic documentation

Floating License

6ES7811-1CC06-0YA5

Software Update Service (requires current software version)¹⁾

6ES7811-1CA01-0YX2

Upgrade floating to V5.6

6ES7811-1CC06-0YE5

SIMATIC Manual Collection

6ES7998-8XC01-8YE0

Electronic manuals on DVD,

multilingual:

LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

SIMATIC Manual Collection

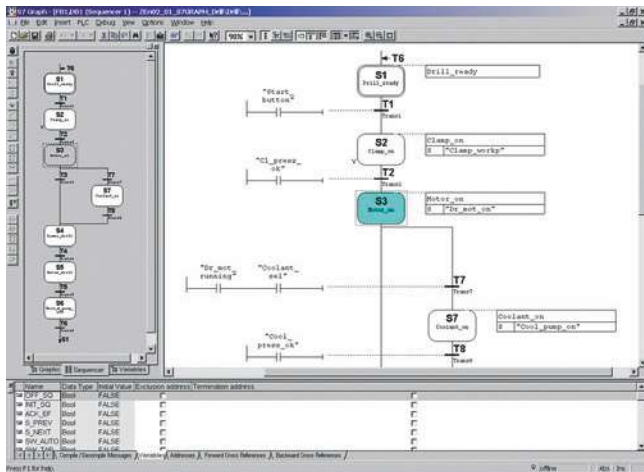
update service for 1 year

6ES7998-8XC01-8YE2

Current "Manual Collection" DVD and the three subsequent updates

¹⁾ For more information on the Software Update Service, see page 11/2.

Overview



- For configuring and programming sequential processes using sequencers
- Standardized representation to EN 1131-3
- Clearly comprehensible program thanks to structuring of the process into separate steps
- With extensive diagnostic functions, integrated in the SIMATIC diagnostic concept
- With PLCopen Base Level certificate
- For use in SIMATIC S7-300 (recommended for CPU 315 and CPU 312C or higher), S7-400 C7 and WinAC



Licensing

- S7 GRAPH is an integral part of the STEP 7 Professional software package or is available as a stand-alone software product.
- S7-Graph V5.6 is delivered 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 from a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.6 is offered for users of the previous version 5.3.
- A separate update service can be purchased for S7-GRAPH.
- A trial license valid for 21 days is available for download from Industry Online Support:
<https://support.industry.siemens.com/cs/document/109748125>

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:

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

Technical specifications

Engineering Tool	S7-GRAPH
Current version	V5.3
Software class	A
Application areas	
Can be used for	Graphical programming of sequential controllers and sequencers
Marketing message	Fast, elegant way to program sequential processes easily and transparently!
Advantages	<ul style="list-style-type: none"> • Can be used to optimum effect even during the design phase • Less configuration effort thanks to graphical structuring and programming • Quick and easy familiarization • Precise fault localization thanks to integrated diagnostics in combination with ProAgent for ProTool/Pro and WinCC • Less time required for engineering compared to LAD/FBD/STL: approx. 40 to 70%
Sectors	<ul style="list-style-type: none"> • Automotive industry (e.g. body-in-white, final assembly) • Electrical equipment manufacture • Rubber and plastics machines • Pick-and-place machines • Woodworking machines • Metalworking machines • Paper and printing machinery • Testing machines • Rolling mills • Coilers • Leisure and entertainment facilities

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-GRAPH

Technical specifications (continued)

Target systems	
Can be used in	S7-300 (CPU 314 or higher and CPU 312C or higher recommended) S7-400 C7 (C7-626 or higher recommended) WinAC
System prerequisites	
Operating system	Windows XP Professional Windows 7 Professional Windows 7 Ultimate
Required hard drive memory in the PG/PC	50 MB
Required software	STEP 7 V5.4 with SP4 or SP5 or STEP 7 V5.5 with or without SP1
Properties	
Monitoring tags	Yes
Controlling tags	Yes
Single-step processing	Yes
Integration in CFC	-
Program runtimes	
with S7-300 (typical)	3 ms per block + 1 ms per active step
with S7-400 (typical)	0.4 ms per block + 0.06 ms per active step
Diagnostics	
Integration of diagnostic data in ProAgent	Yes
Integration of diagnostic data in ProTool/Pro	Via ProAgent
Integration of diagnostic data in WinCC	Via ProAgent
Supported standards	
IEC 61131-3	PLCopen certification • Base Level SFC available
Status of PLCopen activities	-
Available versions/licenses	
Floating license	CD-ROM with • Tool • Electronic manual • Getting Started guide • Examples License key on USB flash drive Certificate of License Product information
Upgrade (floating license)	CD-ROM with • Tool • Electronic manual • Getting Started guide • Examples License key on USB flash drive Certificate of License Product information
Software Update Service (SUS)	
Also a component part of	
STEP 7 Professional	Yes
S7 Trainer Package	Yes
PCS 7	-
D7-SYS	-

Ordering data

Article No.

SIMATIC S7-GRAPH, Version 5.6

Task:
Configuring and programming of sequences

Target system:
SIMATIC S7-300, SIMATIC S7-400, SIMATIC C7

Requirement:
STEP 7 V5.6; Windows 7 SP1, Windows 10 Professional/Enterprise, Windows Server 2008 R2 SP1, Windows Server 2012 R2, Windows Server 2016

Type of delivery:
on CD;
German, English, French, Spanish, Italian;
including license key on USB flash drive, with electronic documentation

Floating license

6ES7811-0CC07-0YA5Software Update Service (requires current software version)¹⁾**6ES7811-0CA01-0YX2**

Floating license upgrade to V5.6

6ES7811-0CC07-0YE5

SIMATIC Manual Collection

6ES7998-8XC01-8YE0

Electronic manuals on DVD, multilingual:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

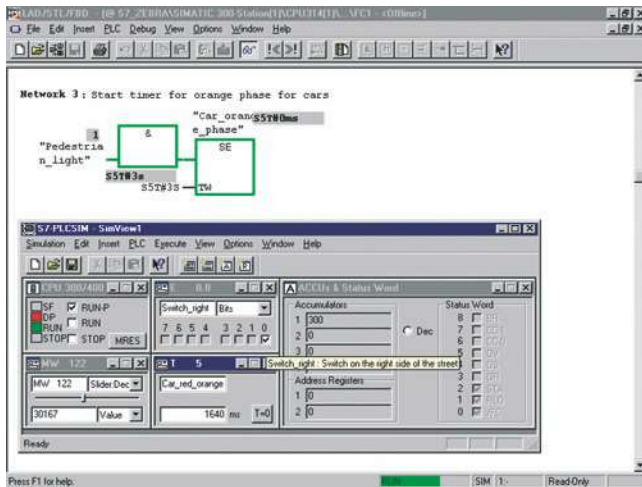
SIMATIC Manual Collection update service for 1 year

6ES7998-8XC01-8YE2

Current "Manual Collection" DVD and the three subsequent updates

¹⁾ For more information on the Software Update Service, see page 11/2.

Overview



- For functional testing of the generated SIMATIC S7 user blocks on a programming device or PC, independent of the availability of the target hardware
- Shifts the detection and correction of programming errors to an early stage of development
- Enables an accelerated and cost-effective initial commissioning and enhances the program quality
- Can be used for LAD, FBD, STL, S7-GRAPH, S7-HiGraph, S7-SCL, CFC, S7-PDIAG, WinCC (local installation)

Licensing

- S7-PLCSIM is an integral part of the STEP 7 Professional software package or is available as a stand-alone software product
- S7-PLCSIM V5.4 is delivered 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 from a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.4 is offered for users of the previous versions.
- A separate update service can be purchased for S7-PLCSIM.
- A trial license valid for 14 days is available for download from Industry Online Support:
<https://support.industry.siemens.com/cs/document/109750064>

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:

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

Technical specifications

Engineering Tool	S7-PLCSIM
License type	Floating license
Software class	A
Current version	V5.4
Target system (recommended)	SIMATIC S7-300 SIMATIC S7-400 SIMATIC C7
Operating system	Windows XP Professional Windows 7 Professional Windows 7 Ultimate
Required software packages	STEP 7 V5.4 with SP4 or SP5 or STEP 7 V5.5 with or without SP1
Disk space required in PG/PC	5 MB

Ordering data

Article No.

S7-PLCSIM, Version 5.4

Task:

Functional testing of SIMATIC S7 user blocks on PG/PC

Target system:

SIMATIC S7-300, SIMATIC S7-400, SIMATIC C7

Requirement:

STEP 7 V5.4 or higher incl. SP4/SP5 or STEP 7 V5.5 with or without SP1

Type of delivery:

on CD;
English, German, French, Spanish, Italian;
license key on USB flash drive, with electronic documentation

Floating license

6ES7841-0CC05-0YA5

Software Update Service (requires current software version)¹⁾

6ES7841-0CA01-0YX2

Floating license upgrade to V5.4

6ES7841-0CC05-0YE5

SIMATIC Manual Collection

6ES7998-8XC01-8YE0

Electronic manuals on DVD, multilingual:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

SIMATIC Manual Collection update service for 1 year

6ES7998-8XC01-8YE2

Current "Manual Collection" DVD and the three subsequent updates

¹⁾ For more information on the Software Update Service, see page 11/2.

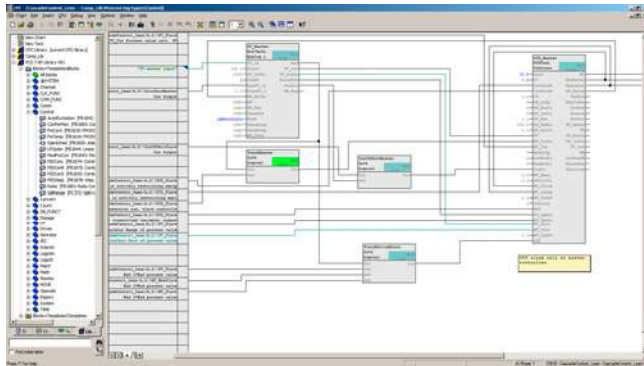
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

CFC

Overview



- For the generation of automation programs by drawing a technology chart
- With extensive libraries of ready-made software blocks to which user-created blocks can be added
- Minimized outlay and reduced error susceptibility due to the interconnection of ready-made blocks
- Optimized integration in the world of automation, for example, through guaranteed compatibility with all STEP 7 tools
- Can be used for SIMATIC S7-300 (recommended for CPU 316 or CPU 314C or higher), SIMATIC S7-400, SIMATIC WinAC and D7-SYS

Licensing

- SIMATIC CFC V9.0 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 from a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 9.0 is available for users of the previous 8.x versions.
- For SIMATIC CFC, the Software Update Service is available with the Standard, Compact and Download types of delivery.

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:

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

Technical specifications

EngineeringTool	CFC
Current version	V9.0
Software class	A
Application areas	
Can be used for	Graphical creation, interconnection and parameterization of (preconfigured) blocks and functions
Marketing message	Simply interconnect and configure instead of programming!
Advantages	<ul style="list-style-type: none"> • Can be used to optimum effect even during the design phase • Reduced configuration effort thanks to graphical interconnection • High degree of reusability of diagrams that have already been created • Quick and easy familiarization • Quick and transparent interconnection of ready-made functions • Technological creation of the program as a whole • Clear representation of control loop structures • Short commissioning time • High plant availability • Less time required for engineering compared to LAD/FBD/STL: up to 50%
Sectors	<ul style="list-style-type: none"> • Automotive industry (e.g. thermostats, tire production processes) • Chemicals • Power engineering and supply • Rubber and plastics machines • Metalworking machines • Food and beverage machines • Petrochemicals • Rolling mills • Water industry • Coilers
Target systems	
Can be used in	S7-300 S7-400 F/H systems WinAC
System prerequisites	
Operating system	MS Windows 7 Professional with SP1 (64-bit) MS Windows 7 Ultimate with SP1 (64-bit) MS Windows 7 Enterprise with SP1 (64-bit) MS Windows 10 Pro (64-bit) MS Windows 10 Enterprise 2015 LTSP (64-bit) MS Windows Server 2008 R2 Standard Edition with SP1 (64-bit) MS Windows Server 2012 R2 Update Standard Edition (64-bit)
Required hard drive memory in the PG/PC	approx. 80 MB
Required software	STEP 7 V5.6 or higher

Technical specifications (continued)		Ordering data	Article No.
Properties		SIMATIC CFC, Version 9.0	
Monitoring tags	Yes	Task: Graphic configuring and programming of automation applications in the form of technology-oriented diagrams	
Controlling tags	Yes	Target system: SIMATIC S7-300/400, SIMATIC WinAC, D7-SYS	
Single-step processing	-	Requirements: STEP 7 V5.6 or higher	
Integration in CFC	Yes	Type of delivery: Engineering software and electronic documentation on CD-ROM, license key on USB flash drive, Certificate of License	
Program runtimes		Floating license	6ES7658-1EX58-0YA5
with S7-300 (typical)	Depending on the interconnected blocks	Floating license upgrade from V8.x to V9.0	6ES7658-1EX58-0YE5
with S7-400 (typical)	Depending on the interconnected blocks	Software Update Service (requires current software version) ¹⁾	6ES7658-1EX00-2YL8
Diagnostics		Software Update Service for multiple orders (requires current software version); the delivery items are combined. For multiple contracts, only 1 package (1 data medium set and the corresponding number of licenses) will be supplied. Can be ordered with 5 or more contracts ¹⁾	6ES7658-1EX00-2YM8
Integration of diagnostic data in ProAgent	-	The delivery items to be combined must be ordered as one item.	
Integration of diagnostic data in ProTool/Pro	-	Software Update Service (requires current software version) ¹⁾	6ES7658-1EX00-2YV8
Integration of diagnostic data in WinCC	-	Email address required for delivery	
Supported standards		SIMATIC Manual Collection	6ES7998-8XC01-8YE0
IEC 61131-3	based on the IEC standard	Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC	
Status of PLCopen activities	-	SIMATIC Manual Collection update service for 1 year	6ES7998-8XC01-8YE2
Available versions/licenses		Current "Manual Collection" DVD and the three subsequent updates	
Floating license	<ul style="list-style-type: none"> • 1 CD • 1 license key memory stick • 1 Certificate of License 		
Upgrade (floating license)	<ul style="list-style-type: none"> • 1 CD • 1 license key memory stick • 1 Certificate of License 		
Software Update Service (SUS)			
Also a component part of			
STEP 7 Professional	-		
S7 Trainer Package	-		
PCS 7	Yes		
D7-SYS	Yes		

¹⁾ For more information on the Software Update Service, see page 11/2.

Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

S7 Distributed Safety

Overview

- For creating safety-related automation applications with SIMATIC S7 in LAD or FBD (STEP 7 required)
- Implementation of safety functions by simply connecting function blocks
- With prefabricated block library
- Custom block creation possible
- Optimal embedding in the automation world thanks to total integration in the STEP 7 tools
- Scope of supply:
 - Distributed Safety Editor
 - Code generator
 - Debugger
 - Standard block libraries

Licensing

- SIMATIC S7 Distributed Safety is delivered 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 from a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.4 is offered for users of the previous versions 5.x.
- A trial license valid for 14 days is available for download from Industry Online Support:

<https://support.industry.siemens.com/cs/document/109749360>

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:

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

Ordering data

Article No.

S7 Distributed Safety V5.4 SP5 update 2 programming tool

Task:

Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco, ET 200SP

Requirement:

Windows 7 SP1 (64-bit)
Windows 10 Professional/Enterprise (64-bit)
Windows Server 2008 R2 SP1 (64-bit)
Windows Server 2012 R2 (64-bit),
Windows Server 2016 (64-bit)
STEP 7 from V5.5 SP1

Please also consider the operating systems that have been released for the STEP 7 version used

Floating license for 1 user, software and documentation on DVD, license key on USB flash drive

6ES7833-1FC02-0YA5

Floating license for 1 user, software, documentation and license key for download¹⁾
Email address required for delivery

6ES7833-1FC02-0YH5

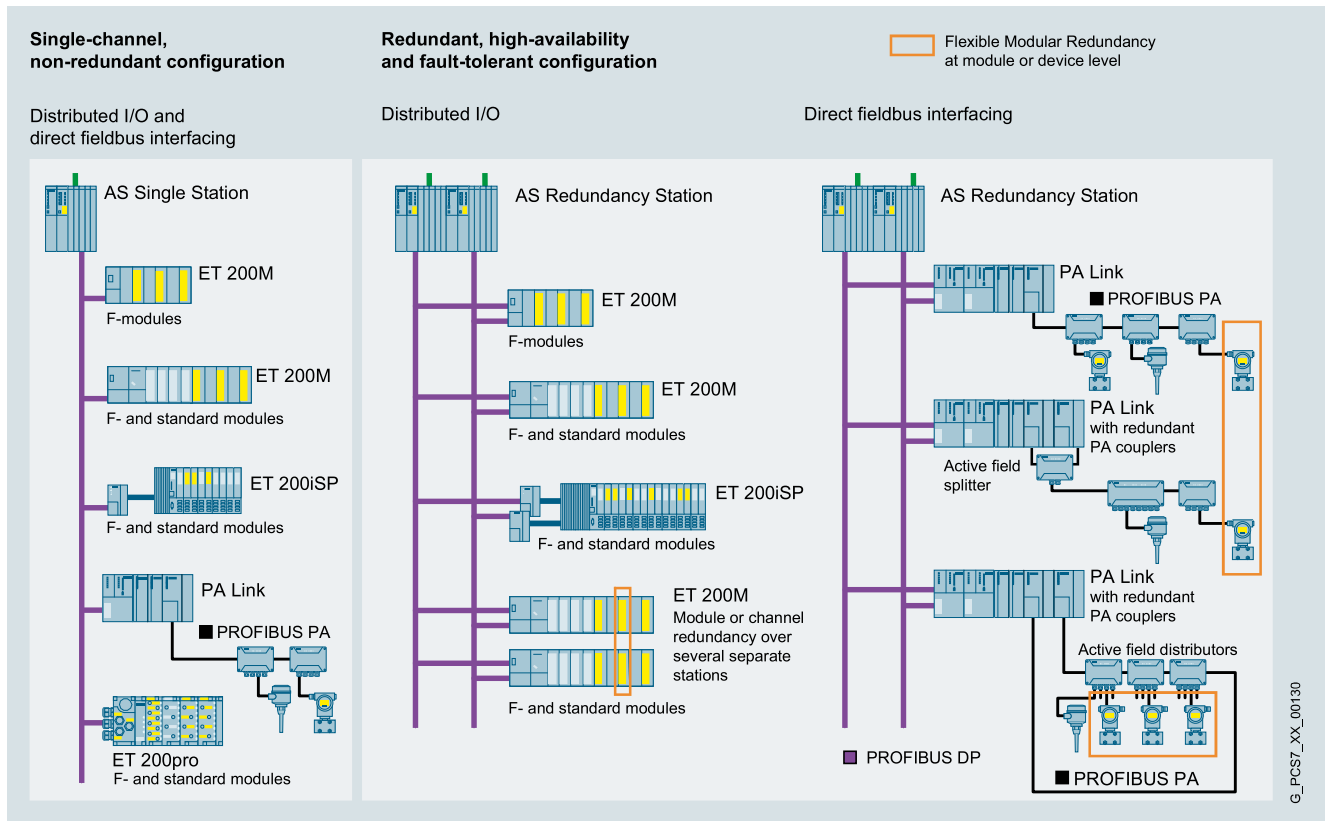
S7 Distributed Safety upgrade

From V5.x to V5.4;
floating license for 1 user, software and documentation on DVD; license key on USB flash drive

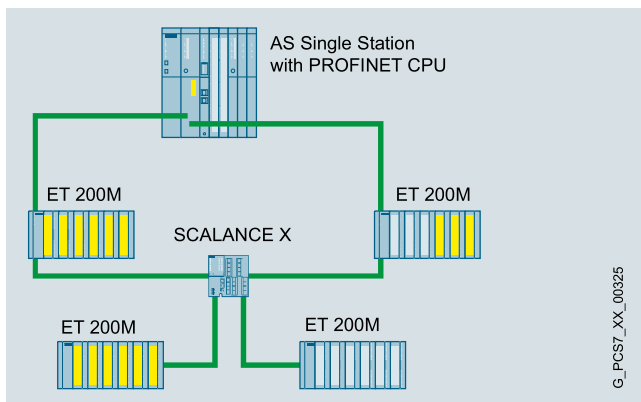
6ES7833-1FC02-0YE5

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

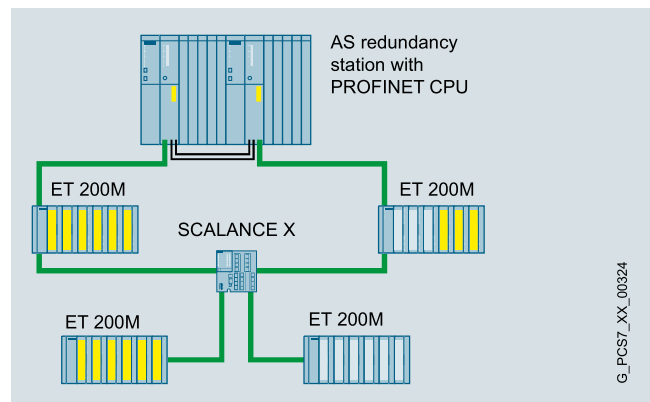
Overview



Common engineering system for basic process control system and safety instrumented system



PCS 7: Safety-related PROFINET IO communication with media redundancy



PCS 7: Safety-related PROFINET IO communication with system redundancy

The process industry frequently features complex technological sequences with high safety demands, and faults and failures in the process automation could have fatal consequences for personnel, machines, plants and the environment. Therefore, functional safety is of particular importance. The safety technology used must reliably detect errors in the process and also its own internal errors, and automatically set the plant/application to a safe state if an error is detected.

S7 F/FH Systems is the comprehensive product spectrum from Siemens for fail-safe, fault-tolerant, and high availability applications in the process industry. This is characterized by:

- Safe PROFIBUS and PROFINET communication
- Safe communication also via PROFIBUS PA with PROFSafe
- ET 200 distributed I/O systems with safety-related I/O modules

Software for SIMATIC Controllers

STEP 7 V5.x

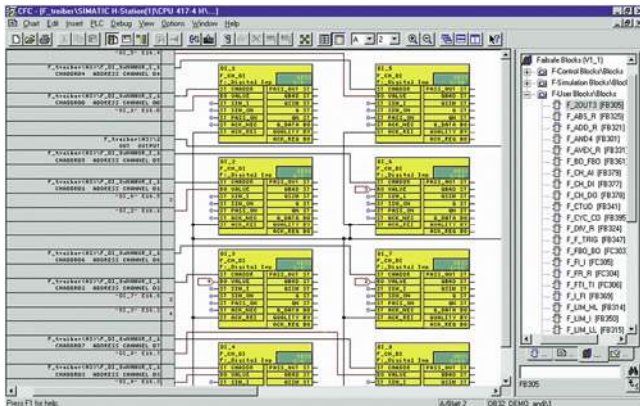
Options for programming and design

S7 F/FH Systems

Overview (continued)

- User-friendly process visualization, including safety-relevant fault messages, via optional operator stations
- Engineering system with SIMATIC S7 F Systems and SIMATIC S7 Safety Matrix software packages
- Safety-related F/FH automation systems of the S7-400 range:
The safety-related automation systems of the S7 F/FH System are based on the hardware of CPU 400H, which is extended with the SIMATIC S7 F Systems software package to include safety functions. All F/FH Systems listed are TÜV-certified and comply with the safety requirements up to SIL 3 according to IEC 61508. Two design versions are available:
 - Single-channel (with one CPU, safety-related)
 - High-availability (with redundant CPUs, safety-related and fault-tolerant)

Overview



The SIMATIC S7 F Systems engineering tool integrated in the SIMATIC Manager can be used to configure an S7 F/FH System. With this tool you can:

- Parameterize CPU and F-signal modules
- Create safety-related applications in the CFC.

Predefined, TÜV-approved blocks are available for this purpose. The safety-related blocks save the user having to perform redundant programming for detecting and reacting to errors.

Licensing

- The engineering 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).
- During runtime, each CPU requires its own runtime license.
- An upgrade to version 6.2 is available for users of the previous 6.0/6.1 versions.

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>

Ordering data

Article No.

SIMATIC S7 F Systems RT license

For processing safety-related application programs, for one AS 412F/FH, AS 414F/FH or AS 417F/FH

6ES7833-1CC00-6YX0

SIMATIC S7 F Systems V6.2

Programming and configuration environment for creating and using safety-related STEP 7 programs.

2 languages (English, German), software class A, runs on the engineering station under Windows 7 SP1 64-bit (Professional, Enterprise, Ultimate) or Windows Server 2008 R2 SP1 Standard 64-bit; on operator station additionally under Windows 7 SP1 32-bit (Enterprise, Ultimate), Windows 10 Enterprise 2015 LTSC 64-bit or Windows Server 2012 R2 Standard 64-bit,

Floating license for 1 user

No SIMATIC PCS 7 Software Media Package

Type of delivery:

Physical delivery
License key on USB flash drive and Certificate of License, bundled with 1 x SIMATIC S7 F Systems Software Media Package per order item

6ES7833-1CC26-0YA5

Type of delivery:

Online delivery
License key download and online Certificate of License, combined with SIMATIC S7 F Systems Software Media Package (software download and online Certificate of License)

6ES7833-1CC26-0YH5

Note:

email address required

Article No.

SIMATIC S7 F Systems V6.2 Upgrade Package

For S7 F Systems upgrade from V6.0/V6.1 to V6.2

2 languages (English, German), software class A, runs on the engineering station under Windows 7 SP1 64-bit (Professional, Enterprise, Ultimate) or Windows Server 2008 R2 SP1 Standard 64-bit; on operator station additionally under Windows 7 SP1 32-bit (Enterprise, Ultimate), Windows 10 Enterprise 2015 LTSC 64-bit or Windows Server 2012 R2 Standard 64-bit,

Floating license for 1 user

No SIMATIC PCS 7 Software Media Package

Type of delivery:

Physical delivery
License key on USB flash drive and Certificate of License, bundled with 1 x SIMATIC S7 F Systems Software Media Package per order item

6ES7833-1CC26-0YE5

Type of delivery:

Online delivery
License key download and online Certificate of License, combined with SIMATIC S7 F Systems Software Media Package (software download and online Certificate of License)

6ES7833-1CC26-0YK5

Note:

email address required

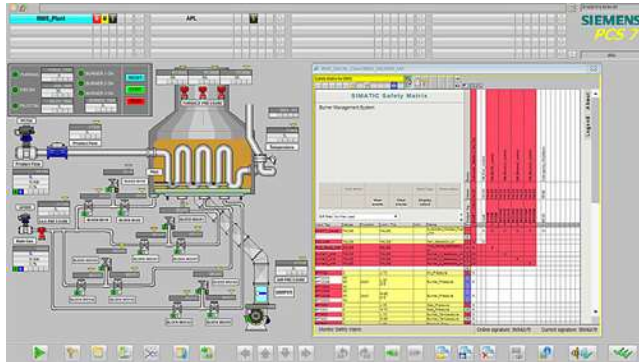
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

S7 F/FH Systems > SIMATIC S7 Safety Matrix

Overview



SIMATIC S7 Safety Matrix, which can be used in addition to SIMATIC S7 F Systems, is an innovative safety lifecycle tool from Siemens that can be used not only for the convenient configuration of safety applications, but also for their operation and service. The tool, which is based on the proven principle of a cause-and-effect matrix, is ideally suited to processes where defined states require specific safety reactions.

SIMATIC S7 Safety Matrix means that programming of the safety logic is not only significantly simpler and more convenient, but also much faster than conventional processes. During the risk analysis of a plant, the configuration engineer can assign precisely defined reactions (effects) to events (causes) which may occur during a process.

Licensing

- The engineering software for the tool and viewer 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 version 6.3 is available for users of the previous 6.x versions.

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 under: www.siemens.com/simatic-licenses

Ordering data

Article No.

SIMATIC Safety Matrix Tool V6.3

Creation, configuration, compilation, loading and online monitoring of the Safety Matrix in a SIMATIC PCS 7 environment

Including SIMATIC Safety Matrix Viewer for SIMATIC PCS 7, for operation and monitoring of the Safety Matrix in a SIMATIC PCS 7 environment with multiple operator control levels

Physical delivery
License key on USB flash drive and Certificate of License, bundled with 1 × SIMATIC S7 Safety Matrix Software Media Package per order item

Floating license for 1 installation

6ES7833-1SM03-0YA5

Floating license upgrade from V6.x to V6.3

6ES7833-1SM03-0YE5

SIMATIC Safety Matrix Viewer V6.3 for SIMATIC PCS 7

Operation and monitoring of the Safety Matrix in the SIMATIC PCS 7 environment with multiple operating levels

Physical delivery
License key on USB flash drive and Certificate of License, bundled with 1 × SIMATIC S7 Safety Matrix Software Media Package per order item

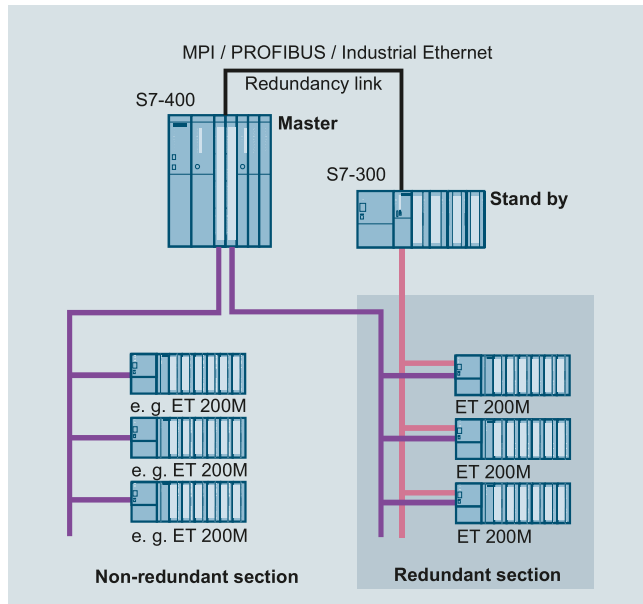
Floating license for 1 installation

6ES7833-1SM63-0YA5

Floating license upgrade from V6.x to V6.3

6ES7833-1SM63-0YE5

Overview



- Software package for assembling fault-tolerant control systems based on software
- Designed for control systems with single-channel distributed I/O
- For use in applications with low demands on changeover speed, such as the control of hydroelectric power plants, cooling circuits, traffic flows, level control, measured data acquisition
- Inexpensive thanks to the use of standard S7-300 and S7-400 components
- I/O linking with PROFIBUS DP in redundant configuration
- Optional control via WinCC operator station

Technical specifications

Technical specifications	
Hardware requirements	
CPU	S7-300: CPU 313C-2 DP, 314C-2 DP, 315-2 DP, 316-2 DP, 318-2 DP S7-400: all CPUs
Redundancy link of the CPUs	MPI, PROFIBUS, Industrial Ethernet; existing connections can also be used.
Suitable modules for ET 200M	IM 153-2; all DI/O, AI/O for ET 200M; FM 350-1 counter module CP 341
Software requirements	
Configuring/programming	STEP 7 V4.0
Communication configuration for redundant PROFIBUS DP	NCM S7 for PROFIBUS

Ordering data

Article No.

Program package software redundancy V1.2

Task:
Configuring a redundant control.
Target system: SIMATIC S7-300, S7-400

Requirement:
STEP 7 V5.2, NCM S7 for PROFIBUS

Delivery package:
incl. electronic documentation (English, German, French, Spanish, Italian),
4 application examples and faceplate for WinCC on CD-ROM

Single license (for 2 CPUs)

6ES7862-0AC01-0YA0

Single license, without software and documentation

6ES7862-0AC01-0YA1

SIMATIC Manual Collection

6ES7998-8XC01-8YE0

Electronic manuals on DVD, multilingual:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

SIMATIC Manual Collection update service for 1 year

6ES7998-8XC01-8YE2

Current "Manual Collection" DVD and the three subsequent updates

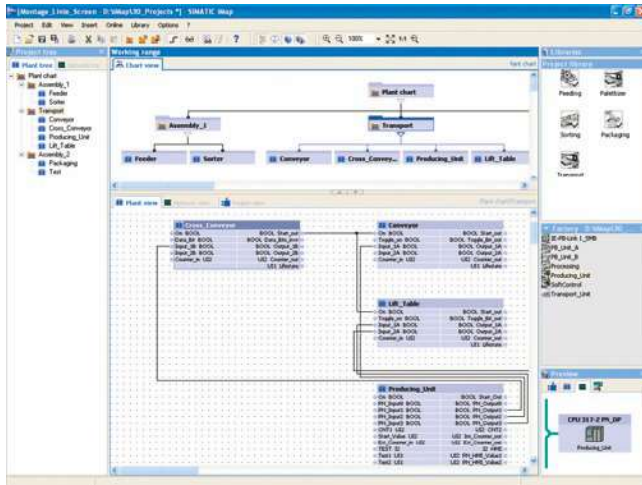
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

SIMATIC iMap

Overview



- Component-based software tool for configuring the communication in distributed automation solutions
- For easy graphical configuration of the communication between subsystems and machine-to-machine communication in the production line
- Based on the PROFINET standard
- Open for PROFINET devices from various manufacturers on Industrial Ethernet
- Runs under Windows XP Professional and Windows 7 Ultimate/Professional

Licensing

- The engineering 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 version 3.0 is available for users of previous versions.

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:

<https://www.siemens.com/simatic-licenses>

Technical specifications

Engineering Tool	SIMATIC iMap
Current version	V3.0
Software class	A
Application areas	
Keyword	SIMATIC iMap is an engineering tool for configuring communication between automation and field devices in distributed automation solutions.
Marketing message	"Time and cost savings in modular machine and plant construction with Component Based Automation." "Modularization and machine-to-machine communication along the production line."
Advantages	<ul style="list-style-type: none"> • Open component-based engineering tool to the PROFINET standard. • Simple communication between intelligent automation and field devices on PROFIBUS DP and on Ethernet. • Graphical configuration of communication on PROFIBUS DP and on Ethernet • Extremely high reusability of software components (technology modules) • Graphical structuring of the plant using "chart-in-chart" function • Convenient navigation through the project tree • Easy creation and structuring of technology libraries • PROFIBUS and Ethernet in the overview of the network view • Fast start-up thanks to downloading and testing directly on Ethernet (also of PROFIBUS slaves) • Online display of values of the technology modules on the interfaces and in the variable table • Diagnosis of communication in the diagnostics window
Sectors	<ul style="list-style-type: none"> • Automotive industry (especially in assembly, conveyor systems and in the paint shop) • Complex food and packaging machines • Conveyor systems based on PROFIBUS DP • Production lines with several interlinked machines

Technical specifications (continued)

Target systems	<ul style="list-style-type: none"> • SIMATIC S7 CPU 31x-2 PN/DP and SIMATIC S7 CPU 319-3 PN/DP (with integrated PROFINET interface. This can be used as a proxy function for the devices of a complete PROFIBUS segment, one line only) • SIMATIC WinAC PN (can be used as a proxy function for the devices of a complete PROFIBUS segment, one line only) • SIMATIC NET IE/PB Link (can be used as a proxy function for the devices of a complete PROFIBUS segment) • SIMATIC NET CP 343-1 and CP 343-1 Advanced (for connecting SIMATIC S7-300 to Ethernet) • CP443-1 Advanced (for connecting SIMATIC S7-400 to Ethernet) • Distributed I/O stations with separate CPU (all intelligent field devices on PROFIBUS such as SIMATIC CPU 313C-2DP, CPU 314C-2DP, CPU 315-2DP, CPU 316-2DP, ET 200 IM 151 CPU, ET 200S BM 147 CPU), • PROFINET CBA OPC Server (for access from PC applications to data in PROFINET devices) • Devices on Industrial Ethernet based on the PROFINET CBA standard • SIMATIC OPs (within the components) • SIMATIC ProTool/Pro, WinCC or any other visualization system with OPC client function
System prerequisites	
Operating system	Windows XP Prof. with Service Pack 2 or Windows 7 Ultimate/Professional; PC administration rights are required for installation
PG/PC hardware	Pentium processor, 1 GHz or higher
Recommended expansion of main memory in PG/PC	RAM: 512 MB or more
Hard disk space required in PG/PC	Approx. 200 MB
Software required	<ul style="list-style-type: none"> • STEP 7 V5.3 Service Pack 3 or higher • PN OPC Server V6.3 or higher <p>The following software must be installed before iMap (included in the iMap package):</p> <ul style="list-style-type: none"> • MS Internet Explorer V6.0 Service Pack 1 and higher • Adobe Acrobat Reader V5.0
Type of delivery	
Languages	English, German, French, Italian and Spanish
Single License (SL)	Yes
Upgrade License (UG)	Yes, from V2.0 to V3.0
Paper manuals	Electronically on CD
Authorization/licenses	
Authorization	Yes
Single License (SL)	Yes
Upgrade License (UG)	Yes
Software Update Service	Yes
Unlock Copy License	No

Ordering data

Article No.

SIMATIC iMap V3.0

Target system:

CPU 31x-2 PN/DP, CPU 319-3 PN/DP, SIMATIC WinAC PN, SIMATIC NET IE/PB Link, SIMATIC NET CP 343-1, SIMATIC NET CP 343-1 Advanced, SIMATIC NET CP 443-1 Advanced, distributed I/O devices with own CPU, PROFINET CBA OPC server, devices on Industrial Ethernet based on the PROFINET CBA standard, SIMATIC OPs, SIMATIC ProTool/Pro

Requirements:

Windows XP Prof. with Service Pack 2 or higher or Windows 7 Ultimate/Professional; on PG or PC with Pentium processor, min. 1 GHz; STEP 7 V5.3 Service Pack 3 or higher, PN OPC Server V6.3 or higher

Type of delivery:

German, English, with electronic documentation

Floating license

Upgrade to V3.0, floating license

6ES7820-0CC04-0YA5

6ES7820-0CC04-0YE5

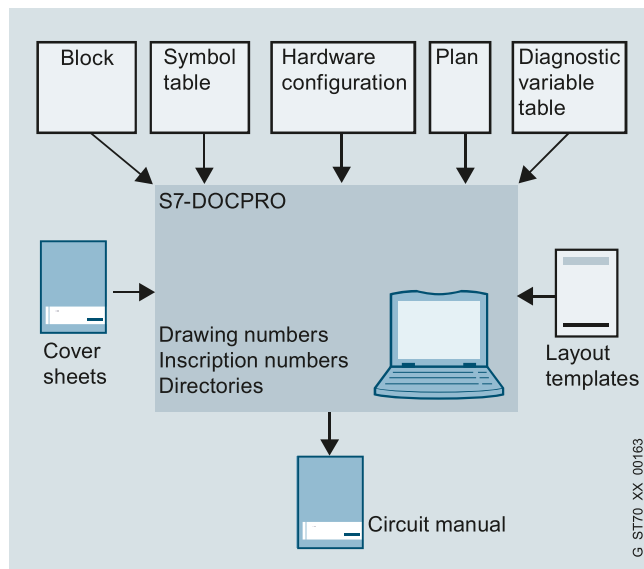
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

DOCPRO

Overview



- For creating and managing plant documentation
- Permits structuring of project data, preparation in the form of wiring manuals, and uniform printouts
- For use in SIMATIC S7-300, S7-400 and C7

Licensing

- SIMATIC S7 DOCPRO is supplied with a floating license. The floating license allows the software to be installed on any number of computers. This means one user can use the software on any computer, or from one specific workstation per license. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- A separate S7-DOCPRO update service is available for ordering.
- An upgrade to version 5.4 is available for users of previous versions.

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>

Technical specifications

Engineering Tool	DOCPRO
License type	Floating license
Software class	A
Current version	V5.4
Target system (recommended)	SIMATIC S7-300/400 SIMATIC C7
Operating system	Windows XP Professional Windows 7 Ultimate/Professional from DOCPRO V5.4 SP1
Required software packages	STEP 7, V5.4 and higher; for operation under Windows 7 STEP 7, V5.5 and higher
Disk space required in PG/PC	5 MB

Ordering data

DOCPRO, Version 5.4
Task:
 Creation of circuit manuals for plant documentation management
Target system:
 SIMATIC S7-300, SIMATIC S7-400, SIMATIC C7
Requirement:
 from STEP 7 V5.4
Delivery package:
 on CD; German, English, French, Spanish, Italian;
 incl. authorization diskette, with electronic documentation

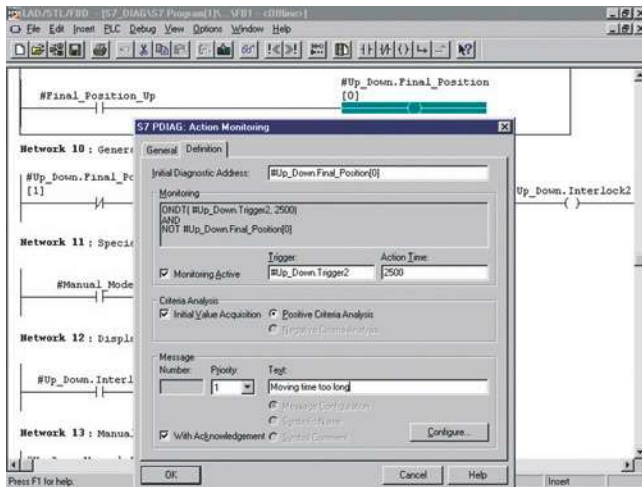
Ordering data	Article No.
Floating license	6ES7803-0CC03-0YA5
Software Update Service (requires current software version) ¹⁾	6ES7803-0CA01-0YX2
Floating license upgrade to V5.4	6ES7803-0CC03-0YE5

Ordering data	Article No.
SIMATIC Manual Collection Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC	6ES7998-8XC01-8YE0

Ordering data	Article No.
SIMATIC Manual Collection update service for 1 year Current "Manual Collection" DVD and the three subsequent updates	6ES7998-8XC01-8YE2

¹⁾ For more information on the Software Update Service, see page 11/2.

Overview



- For configuration of process diagnostics with SIMATIC S7
- Increases the availability of machines and production plants and provides supports with fault analysis and elimination on-site
- For use on the SIMATIC S7-300, S7-400

Licensing

- S7-PDIAG V5.6 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 and without being tied to a certain workplace. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.6 is offered for users of the previous version 5.3.

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>

Technical specifications

Engineering Tool	S7-PDIAG
License type	Floating license
Software class	A
Current version	V5.6
Target system (recommended)	SIMATIC S7-300 (CPU 314 or higher) SIMATIC S7-400
Operating system	Windows Server R2 SP1, Windows Server 2012 R2, Windows Server 2016, Windows 7 SP1, Windows 10 Professional, Windows 10 Enterprise
Required software packages	STEP 7 V5.6 or higher
Disk space required in PG/PC	26 MB

Ordering data

Article No.

S7-PDIAG, Version 5.6

Task:
Configuring of process diagnostics for LAD/FBD/STL

Target system:
SIMATIC S7-300 (CPU 314 and higher); SIMATIC S7-400

Requirement:
From STEP 7 V5.6;
under Windows Server R2 SP1, Windows Server 2012 R2, Windows Server 2016, Windows 7 SP1, Windows 10 Professional, Windows 10 Enterprise

Form of delivery:
on CD; German, English, French, Spanish, Italian;
incl. authorization diskette,
with electronic documentation

Floating license

6ES7840-0CC05-0YA5

Software Update Service (requires current software version)¹⁾

6ES7840-0CA01-0YX2

Upgrade to V5.6

6ES7840-0CC05-0YE5

SIMATIC Manual Collection

6ES7998-8XC01-8YE0

Electronic manuals on DVD, multi-language:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

SIMATIC Manual Collection update service for 1 year

6ES7998-8XC01-8YE2

Current "Manual Collection" DVD and the three subsequent updates

¹⁾ For more information on the Software Update Service, see page 11/2.

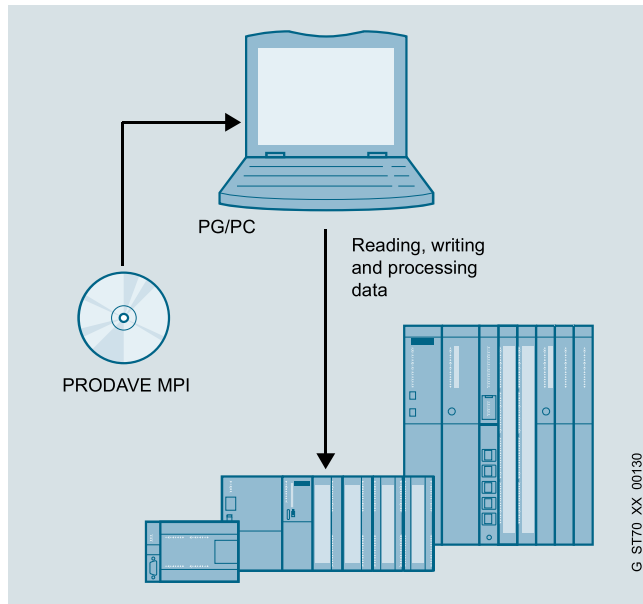
Software for SIMATIC Controllers

STEP 7 V5.x

Options for diagnostics and service

PRODAVE

Overview



- The toolbox for exchange of process data between SIMATIC S7, SIMATIC C7 and a PG/PC
- For autonomous handling of data traffic over MPI/PPI, PROFIBUS and Industrial Ethernet

Licensing

- PRODAVE is supplied with a single license. The single license permits the software to be installed on just one computer.
- It is possible to acquire a single license without software and documentation for installation on more than one computer.

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>

Technical specifications

Parameterization software	PRODAVE
License type	Simple license, copy license
Software class	A
Current version	V6.2
Target system	SIMATIC S7-200 SIMATIC S7-300 SIMATIC S7-400 SIMATIC C7
Operating system	Windows XP Professional, Windows 7 Professional and Ultimate (32 and 64-bit in each case)
Required software packages	-
Main memory configuration in target system	8 MB on PG/PC
Disk space required in PG/PC	2 MB
Standard FBs	
Required libraries	-

Ordering data

Article No.

PRODAVE MPI/IE V6.2 for Windows XP Professional, Windows 7 Professional and Ultimate (32 and 64-bit in each case)

Task:

Data link between PG/PC and SIMATIC S7/C7 via MPI (S7-200 via PPI) or Industrial Ethernet

Requirements:

Windows XP Professional, Windows 7 Professional and Ultimate (32 and 64-bit in each case); CP 5611, integrated MPI or PC adapter

Delivery package:

CD incl. electr. documentation (German, English)

Single license

6ES7807-4BA03-0YA0

Copy license, without software and documentation

6ES7807-4BA03-0YA1

PRODAVE MPI Mini V6.0 for Windows 95/98/ME/NT 4.0/ 2000 Prof./XP Prof.

Task:

Data link between PG/PC and SIMATIC S7/C7 over MPI (S7-200 over PPI); with reduced functional scope

Requirement:

Windows 95/98/ME/NT 4.0/ 2000 Prof./XP Prof.; CP 5611, integrated MPI or PC adapter

Delivery package:

CD incl. electr. documentation (German, English)

Single license

6ES7807-3BA01-0YA0

Copy license, without software and documentation

6ES7807-3BA01-0YA1

SIMATIC Manual Collection

Electronic manuals on DVD, multilingual:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

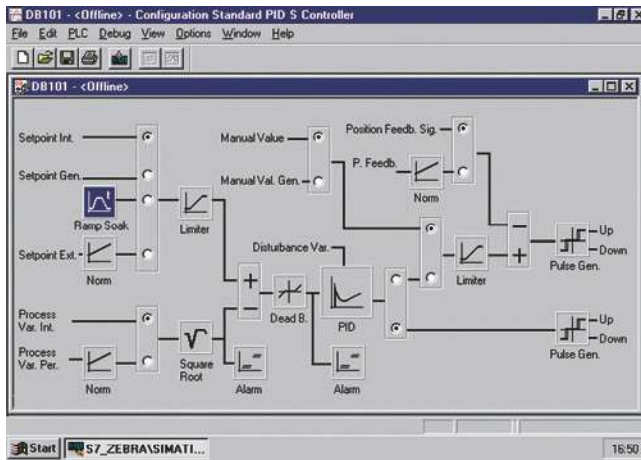
6ES7998-8XC01-8YE0

SIMATIC Manual Collection update service for 1 year

Current "Manual Collection" DVD and the three subsequent updates

6ES7998-8XC01-8YE2

Overview



- For integrating continuous PID controllers, pulse controllers and step controllers in the application program
- Reduces engineering costs thanks to time-saving parameterization and optimization of the controller
- For use in SIMATIC S7-300 (CPU 313 or higher), S7-400 and WinAC

Licensing

- The Standard PID Control consists of a parameterization tool (engineering software) and function blocks (runtime software).
- The engineering 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).
- Function blocks may be copied as often as required onto any programming devices/PCs. However, one license is always required per CPU on which they are used.

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>

Technical specifications

Parameterization software	Standard PID Control					
License type	Single license					
Software class	A					
Current version	V5.2 SP4					
Target system	SIMATIC S7-300 (CPU 313 or higher) SIMATIC S7-400 SIMATIC C7					
Required software packages	STEP 7 V5.6 or higher					
Main memory configuration in PG/PC	16 MB					
Disk space required in PG/PC	1.85 MB					
Standard function blocks	PID_CP (FB 1)		PID_ES (FB 2)		LP_SCHED (FC 1)	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	8956 bytes	7796 bytes	9104 bytes	7982 bytes	1064 bytes	976 bytes
• DB length in the memory	1168 bytes	510 bytes	1124 bytes	484 bytes	184 bytes ²⁾	100 bytes ²⁾
Runtimes						
• In S7-300 ¹⁾	0.18 - 4.4 ms		0.2 - 5.1 ms		0.03 - 0.3 ms	
• In S7-400 ¹⁾	0.13 - 0.35 ms		0.16 - 0.35 ms		0.03 - 0.08 ms	
Required libraries	Standard PID Control FBs					
License types	Simple license and 1 runtime license; 1 runtime license					
Software class	A					
Current version	V5.2 SP3					
Target system	SIMATIC S7-300 (CPU 313 or higher) SIMATIC S7-400 SIMATIC C7					
Required software packages	STEP 7 V5.6 or higher					
Main memory configuration in PG/PC	16 MB					
Disk space required in PG/PC	1.85 MB					

¹⁾ Depending on the CPU

²⁾ With 5 control loops

Software for SIMATIC Controllers

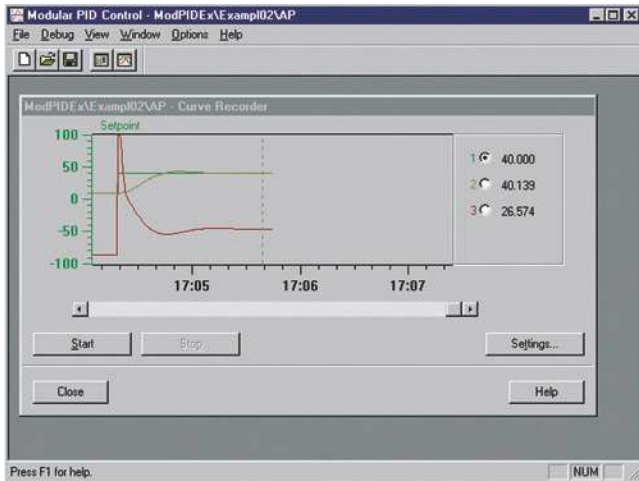
STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Standard PID Control

Ordering data	Article No.	Article No.	
Standard PID Control parameterization tool, V5.2 Task: Parameter assignment tool for standard controllers Requirement: STEP 7 V5.6 or higher Type of delivery: With electronic manual/Getting Started English, German; incl. authorization diskette Floating license	6ES7830-2AA22-0YX0	SIMATIC Manual Collection Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC	6ES7998-8XC01-8YE0
Standard function blocks for Standard PID Control, V5.2 Task: Standard FBs for standard controllers Target system: SIMATIC S7-300 (CPU 313 or higher), S7-400 Type of delivery: With electronic manual/Getting Started English, German Single license Single license without software and documentation	6ES7860-2AA21-0YX0 6ES7860-2AA21-0YX1	SIMATIC Manual Collection update service for 1 year Current "Manual Collection" DVD and the three subsequent updates	6ES7998-8XC01-8YE2

Overview



- For creating complex closed-loop control structures
- Preferred for implementation in closed-loop control equipment in mid-range and high-end applications and in process engineering
- For use in SIMATIC S7-300 (CPU 313 or higher), S7-400 and WinAC

Licensing

- The Modular PID Control consists of a parameterization tool (engineering software) and function blocks (runtime software).
- The engineering 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).
- Function blocks may be copied as often as required onto any programming devices/PCs. However, one license is always required per CPU on which they are used.

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>

Technical specifications

Parameterization software	Modular PID Control
License type	Single license
Software class	A
Current version	V5.1 SP4
Target system	SIMATIC S7-300 (CPU 313 or higher) SIMATIC S7-400 SIMATIC C7
Required software packages	STEP 7 V5.6 or higher

Parameterization software	Modular PID Control
Main memory configuration in PG/PC	16 MB
Disk space required in PG/PC	1.85 MB
Processor, at least	486
Windows swap area, approx.	20 MB (max. possible)

Standard function blocks	A_DEAD_B		CRP_IN		CPR_OUT	
	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
Storage space requirements						
• FB length in the memory	898 bytes	692 bytes	182 bytes	70 bytes	206 bytes	96 bytes
• DB length in the memory	186 bytes	44 bytes	122 bytes	20 bytes	114 bytes	14 bytes
Runtimes in S7-300	0.13 to 0.17 ms		0.06 ms		0.18 to 0.22 ms	
Runtimes in S7-400	0.01 to 0.03 ms		0.01 to 0.02 m		0.01 to 0.04 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Standard function blocks	DEAD_T		DEAD_BAND		DIF	
	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
Storage space requirements						
• FB length in the memory	532 bytes	394 bytes	232 bytes	120 bytes	410 bytes	268 bytes
• DB length in the memory	142 bytes	22 bytes	114 bytes	16 bytes	158 bytes	30 bytes
Runtimes in S7-300	0.26 to 0.33 ms		0.16 to 0.21 ms		0.55 to 0.71 ms	
Runtimes in S7-400	0.02 to 0.06 m		0.01 to 0.03 ms		0.03 to 0.09 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Modular PID Control

Technical specifications (continued)

Standard function blocks	ERR_MON		INTEG		LAG1ST	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	558 bytes	360 bytes	488 bytes	314 bytes	534 bytes	368 bytes
• DB length in the memory	206 bytes	52 bytes	168 bytes	36 bytes	156 bytes	30 bytes
Runtimes in S7-300	0.27 to 0.35 ms		0.40 to 0.51 ms		0.52 to 0.67 ms	
Runtimes in S7-400	0.01 to 0.05 ms		0.02 to 0.07 ms		0.03 to 0.09 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Standard function blocks	LAG2ND		LIMALARM		LIMITER	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	690 bytes	516 bytes	390 bytes	240 bytes	262 bytes	140 bytes
• DB length in the memory	190 bytes	46 bytes	152 bytes	28 bytes	124 bytes	20 bytes
Runtimes in S7-300	0.88 to 1.14 ms		0.47 to 0.61 ms		0.14 to 0.17 ms	
Runtimes in S7-400	0.04 to 0.16 ms		0.02 to 0.07 ms		0.03 to 0.01 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Standard function blocks	LMNGEN_C		LMNGEN_S		NONLIN	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	1576 bytes	1280 bytes	2578 bytes	2152 bytes	826 bytes	672 bytes
• DB length in the memory	276 bytes	80 bytes	360 bytes	110 bytes	138 bytes	18 bytes
Runtimes in S7-300	0.32 to 0.41 ms		1.16 to 1.47 ms		0.32 to 0.41 ms	
Runtimes in S7-400	0.02 to 0.06 ms		0.06 to 0.18 ms		0.02 to 0.07 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Standard function blocks	NORM		OVERRIDE		PARA_CTL	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	234 bytes	122 bytes	362 bytes	214 bytes	406 bytes	232 bytes
• DB length in the memory	130 bytes	24 bytes	146 bytes	28 bytes	234 bytes	82 bytes
Runtimes in S7-300	0.33 to 0.43 ms		0.15 to 0.18 ms		0.12 to 0.15 ms	
Runtimes in S7-400	0.02 to 0.07 ms		0.01 to 0.04 ms		0.01 to 0.03 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Standard function blocks	PID		PULSEGEN		RMP_SOAK	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	1560 bytes	1242 bytes	1110 bytes	872 bytes	1706 bytes	1500 bytes
• DB length in the memory	340 bytes	98 bytes	190 bytes	34 bytes	212 bytes	62 bytes
Runtimes in S7-300	1.15 to 1.46 ms		0.17 to 0.20 ms		0.16 to 0.20 ms	
Runtimes in S7-400	0.06 to 0.18 ms		0.01 to 0.05 ms		0.01 to 0.04 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Technical specifications (continued)

Standard function blocks	ROC_LIM		SCALE		SP_GEN	
	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
Storage space requirements						
• FB length in the memory	1242 bytes	980 bytes	136 bytes	32 bytes	658 bytes	484 bytes
• DB length in the memory	222 bytes	50 bytes	114 bytes	16 bytes	164 bytes	40 bytes
Runtimes in S7-300	0.53 to 0.68 ms		0.10 to 0.13 ms		0.27 to 0.35 ms	
Runtimes in S7-400	0.02 to 0.09 ms		0.01 to 0.02 ms		0.02 to 0.06 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

Standard function blocks	SPLT_RAN		SWITCH		LP_SCHED	
	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
Storage space requirements						
• FB length in the memory	304 bytes	180 bytes	238 bytes	116 bytes	1104 bytes	972 bytes ¹⁾
• DB length in the memory	138 bytes	28 bytes	118 bytes	18 bytes	234 bytes	64 bytes ¹⁾
Runtimes in S7-300	0.09 to 0.11 ms		0.07 to 0.09 ms		0.28 to 0.34 ms	
Runtimes in S7-400	0.01 to 0.02 ms		0.01 to 0.03 ms		0.03 to 0.08 ms	
Target system	SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC		SIMATIC S7-300 (CPU 313 and higher), S7-400, WinAC	

¹⁾ With 5 control loops

Standard FBs in general	
Required libraries	Modular PID Control FBs
License types	Simple license and 1 runtime license; 1 runtime license
Software class	A
Current version	V5.1 SP3
Required software packages	STEP 7 V5.6 or higher
Main memory configuration in PG/PC	16 MB
Disk space required in PG/PC	1.85 MB

Ordering data

Article No.

Article No.

Modular PID Control commissioning tool, V5.1 for SIMATIC S7 and WinAC

Task:
Commissioning tool for modular PID controllers
Requirement:
STEP 7 V5.6 or higher
Type of delivery:
With electronic manual, English, German; incl. authorization diskette
Floating license

6ES7830-1AA11-0YX0

Standard function blocks for Modular PID Control, V5.1

Task:
Standard FBs for modular PID controllers
Target system:
SIMATIC S7-300 (CPU 313 or higher), S7-400, WinAC
Type of delivery:
English, German; with electronic manual
Single license
Single license, without software and documentation

6ES7860-1AA10-0YX0

6ES7860-1AA10-0YX1

SIMATIC Manual Collection

Electronic manuals on DVD, multilingual:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

6ES7998-8XC01-8YE0

SIMATIC Manual Collection update service for 1 year

Current "Manual Collection" DVD and the three subsequent updates

6ES7998-8XC01-8YE2

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > PID Self-Tuner

Overview

- PID Self-Tuner: For expanding existing PID controllers to create self-tuning PI or PID controllers.
- Optimization of PI or PID controllers with 3-step action (HEATING – OFF – COOLING)
- Convenient online initial setting and online adaptation during operation
- Ideally applicable to temperature controllers, but also suitable for level and flow controllers
- Can be used with SIMATIC S7-300 (CPU 313 or higher), SIMATIC S7-400 and WinAC; in combination with PID control (integrated in STEP 7), Standard PID Control, Modular PID Control, FM 355, FM 455 as well as with any PID algorithm

Licensing

- The PID Self-Tuner complements the Standard PID Control or Modular PID Control software packages.
- Function blocks may be copied as often as required onto any programming devices/PCs. However, one license is always required for each CPU on which they are used.

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>

Technical specifications

Parameterization software	PID Self-Tuner			
License type	-			
Software class	-			
Current version	-			
Target system	-			
Operating system	-			
Required software packages	-			
Main memory configuration in PG/PC	-			
Disk space required in PG/PC	-			
Standard FBs	-			
PID Self-Tuner	TUN_EC		TUN_ES	
Storage space requirements	Load memory	Work memory	Load memory	Work memory
• FB length in the memory	approx. 6542 bytes	approx. 5956 bytes	6332 bytes	5714 bytes
• DB length in the memory	644 bytes	294 bytes	638 bytes	288 bytes
Runtimes				
• In S7-300	1.0 ms to 1.5 ms ¹⁾		1.0 ms to 1.5 ms ¹⁾	
• In S7-400	0.06 ms to 0.19 ms ¹⁾		0.06 ms to 0.19 ms ¹⁾	
Required libraries	PID Self-Tuner FBs V5.1			
License types	-			
Software class	A			
Current version	V5.1 SP3			
Target system	SIMATIC S7-300 (CPU 313 or higher) SIMATIC S7-400 SIMATIC C7-620			
Required software packages	STEP 7 V5.6 or higher			
Main memory configuration in PG/PC	-			
Disk space required in PG/PC	-			

¹⁾ Depending on the CPU selected

Ordering data

Article No.

Article No.

PID Self-Tuner V5.1

Task:

Online tuning for PID controller

Target system:

SIMATIC S7-300 (CPU 313 or higher), S7-400, WinAC

Type of delivery:

Standard function blocks, electronic manual and Getting Started English/German

Single license

6ES7860-4AA01-0YX0

Single license, without software and documentation

6ES7860-4AA01-0YX1

SIMATIC Manual Collection

Electronic manuals on DVD, multilingual:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

6ES7998-8XC01-8YE0

SIMATIC Manual Collection update service for 1 year

Current "Manual Collection" DVD and the three subsequent updates

6ES7998-8XC01-8YE2

Overview

- Option package for creating motion control applications for CPU 31xT and CPU 317TF
- Optimal embedding in the automation world thanks to total integration in the STEP 7 tools
- Programming in the standard SIMATIC programming languages LAD, FBD and STL
- Additional Engineering Tools such as S7-SCL or S7-GRAPH can be used

Licensing

- The engineering 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).

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>

Ordering data**Article No.****S7 Technology V4.2**

Task:
Option package for configuring and programming technology tasks with SIMATIC S7 CPU 31xT and SIMATIC S7 CPU 317TF

Requirement:
STEP 7 V5.6 and higher

Type of delivery:
on DVD
Incl. documentation for CPU 31xT, CPU 317TF (included on DVD)

Floating license

Floating license for 1 user, license key download without software or documentation¹⁾; email address required for delivery

6ES7864-1CC42-0YA5

6ES7864-1CC42-0XH5

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

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Easy Motion Control

Overview



- Low-priced package for simple, controlled positioning and simple geared synchronous motion
- For use with any standard variable-speed drive, such as frequency converter or servo drive
- For incremental and absolute encoders

Licensing

- The engineering interface for STEP 7 up to V5.5 is included in Easy Motion Control V2.1 and can be installed without license.
- The function blocks of Easy Motion Control require one runtime license for each CPU onto which they are loaded. Easy Motion Control V2.1 includes a runtime single license; other licenses can be ordered separately.

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 of product versions

Easy Motion Control is an option for STEP 7 V5.x or STEP 7 Professional 2010/17 for controllers of the SIMATIC S7-300/S7-400 series and WinAC. When you use STEP 7 (TIA Portal) to program these controllers, you require the optional package Easy Motion Control (TIA Portal)

Technical specifications

Supported hardware:

Easy Motion Control is runnable on the following CPUs:

- S7-300.
- S7-400.
- WinAC.
- ET 200S.
- ET 200pro.

Supported modules for the measuring of actual values:

- CPU 314C (FW version 2.0 of the CPU or higher).
- ET 200S 1 Count 5V/500 kHz.
- ET 200S 1 Count 24V/100kHz.
- ET 200S 1SSI.
- SM 338.
- FM 350-1, FM 450-1.
- SIMODRIVE sensor with PROFIBUS DP.
- IM 174.
- Other modules for measuring actual values (using free driver).

Supported modules for setpoint output:

- ET 200S 2AO U
- SM 332
- SM 432
- IM 174
- Other modules for setpoint output (using free driver).

Supported drives using PROFIBUS DP:

- Micromaster 4
- SINAMICS G120
- SINAMICS S120

Storage space requirements

Required main storage in byte		
Block	Required main storage per block	Additional main storage required per instance
MC_Init	1086	-
MC_MoveAbsolute	3924	112
MC_MoveRelative	2982	110
MC_MoveJog	3110	110
MC_Home	2886	104
MC_StopMotion	1114	70
MC_Control	1756	58
MC_Simulation	410	64
MC_GearIn	3476	128
Input driver	1416 ... 2654	76 ... 128
Output driver	384 ... 1242	52 ... 68
Axis data block	-	294

Ordering data

Article No.

Easy Motion Control V2.1

6ES7864-0AC01-0YX0

Requirement:
STEP 7 V5.3 SP2 up to V5.5
Type of delivery:
Software and documentation in 2 languages (English, German) on CD and CoL for one runtime single license

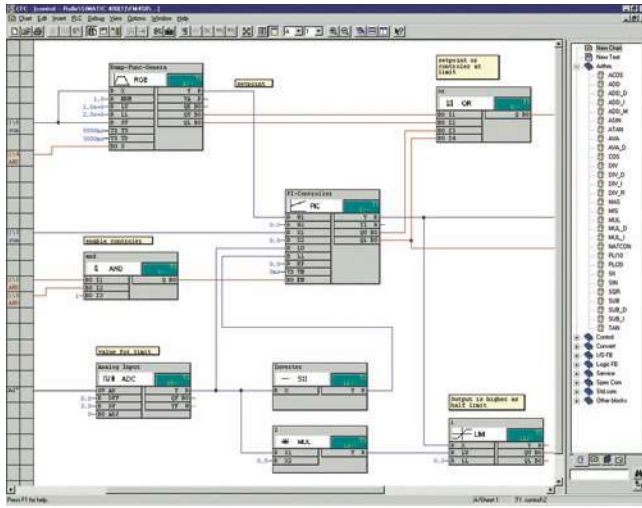
Easy Motion Control Runtime License

6ES7864-0AF01-0YX0

Type of delivery:
CoL for one runtime single license (valid for Easy Motion Control V2.x and V11 or higher), without software or documentation

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

Overview



- Optional package for STEP 7 V5.6 for configuring closed-loop control and automation tasks with SIMATIC TDC, FM 458-1 DP and T400
- Extensive block library
- Generation of user libraries in ANSI C with D7-FB-GEN function block generator

Licensing

- D7-SYS is delivered 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 from a specific workstation. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 9.0 is available for users of the previous 8.x version.
- A separate update service can be purchased for D7-SYS.
- As of version 8.1, the D7-FB-GEN block generator that was previously sold separately is included in the D7-SYS scope of supply.

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:

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

Ordering data

Article No.

SIMATIC D7-SYS V9.0

Reference hardware:
SIMATIC TDC, FM 458-1 DP, T400

Requirement:

MS Windows 7 Professional with SP1 (64-bit) (English language version only)
MS Windows 7 Ultimate and Enterprise with SP1 (64-bit)
MS Windows 10 Pro and Enterprise (64-bit)
MS Windows Server 2008 R2 Standard Edition with SP1 (64-bit)
MS Windows Server 2012 R2 Standard Edition (64-bit)
MS Windows Server 2016 Standard Edition (64-bit)
STEP 7 V5.6

Type of delivery:

On DVD, en, de, with electronic documentation

Floating license

6ES7852-0CC06-0YA5

Upgrade license from V8.x to V9.0

6ES7852-0CC06-0YE5

Software Update Service¹⁾

6ES7852-0CC01-0YL5

SIMATIC Manual Collection

6ES7998-8XC01-8YE0

Electronic manuals on DVD, multi-language:
LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC Distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC

SIMATIC Manual Collection update service for 1 year

6ES7998-8XC01-8YE2

Current "Manual Collection" DVD and the three subsequent updates

¹⁾ For more information on the Software Update Service, see page 11/2.

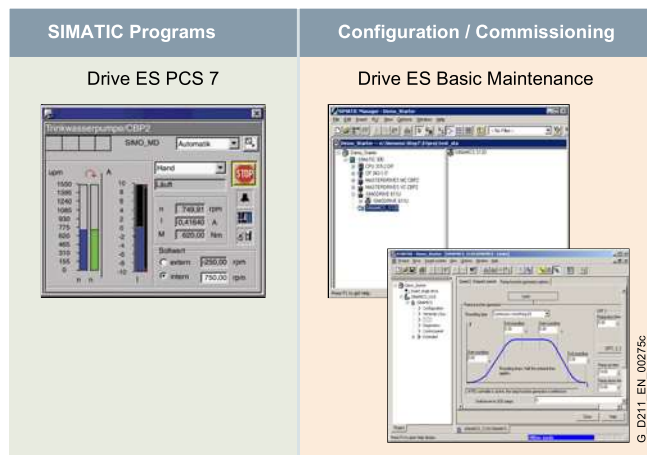
Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Drive ES engineering software

Overview



Drive ES is the engineering system used to integrate the communication, configuration and data management functions of Siemens drive technology into the SIMATIC automation world easily, efficiently and cost-effectively.

The following software packages are available for selection:

- Drive ES Basic Maintenance
- Drive ES PCS 7

Drive ES (**Drive Engineering Software**) fully integrates drives from Siemens into the world of Totally Integrated Automation.

Ordering data

Article No.

Article No.

Drive ES Basic Maintenance V5.6 SPx¹⁾

Configuration software for the integration of drives into TIA (Totally Integrated Automation)

Requirement:

STEP 7 V5.4 SP4 or higher

Type of delivery:

DVD-ROM

Languages: en, de, fr, it, es

With electronic documentation

- Floating license, 1 user

6SW1700-5JA00-6AA0

Drive ES PCS 7 V8.2 SPx¹⁾

Block library for PCS 7 for the integration of drives in Classic Style (as predecessor)

Requirement:

PCS 7 V8.2 and higher

Type of delivery:

CD-ROM

Languages: en, de, fr, it, es
With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (without data storage medium)
- Update service for single-user license
- Upgrade from V6.x/V7.x/V8.x to V8.2 SPx¹⁾

6SW1700-8JD00-2AA0

6SW1700-5JD00-1AC0

6SW1700-0JD00-0AB2

6SW1700-8JD00-2AA4

Drive ES PCS 7 APL V8.2 SPx¹⁾

Block library for PCS 7 for the integration of drives in APL Style (Advanced Process Library)

Requirement:

PCS 7 V8.2 and higher

Type of delivery:

CD-ROM

Languages: en, de, fr, it, es
With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (without data storage medium)
- Update service for single-user license
- Upgrade of APL V8.x to V8.2 SPx¹⁾ or Drive ES PCS 7 V6.x, V7.x, V8.x classic to Drive ES PCS 7 APL V8.2 SPx¹⁾

6SW1700-8JD01-2AA0

6SW1700-5JD00-1AC0

6SW1700-0JD01-0AB2

6SW1700-8JD01-2AA4

Drive ES PCS 7 V9.0 SPx¹⁾

Block library for PCS 7 for the integration of drives in Classic Style (as predecessor)

Requirement:

PCS 7 V9.0 or higher

Type of delivery:

CD-ROM

Languages: en, de, fr, it, es
With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (without data storage medium)
- Update service for single-user license
- Upgrade from V6.x/V7.x/V8.x/V9.x to V9.0 SPx¹⁾

6SW1700-1JD00-0AA0

6SW1700-5JD00-1AC0

6SW1700-0JD00-0AB2

6SW1700-1JD00-0AA4

Drive ES PCS 7 APL V9.0 SPx¹⁾

Block library for PCS 7 for the integration of drives in APL Style (Advanced Process Library)

Requirement:

PCS 7 V9.0 or higher

Type of delivery:

CD-ROM

Languages: en, de, fr, it, es
With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (without data storage medium)
- Update service for single-user license
- Upgrade of APL V8.x, V9.x to V9.0 SPx¹⁾ or Drive ES PCS 7 V6.x, V7.x, V8.x, V9.x classic to Drive ES PCS 7 APL V9.0 SPx¹⁾

6SW1700-1JD01-0AA0

6SW1700-5JD00-1AC0

6SW1700-0JD01-0AB2

6SW1700-1JD01-0AA4

¹⁾ Orders are automatically supplied with the latest Service Pack (SP).