

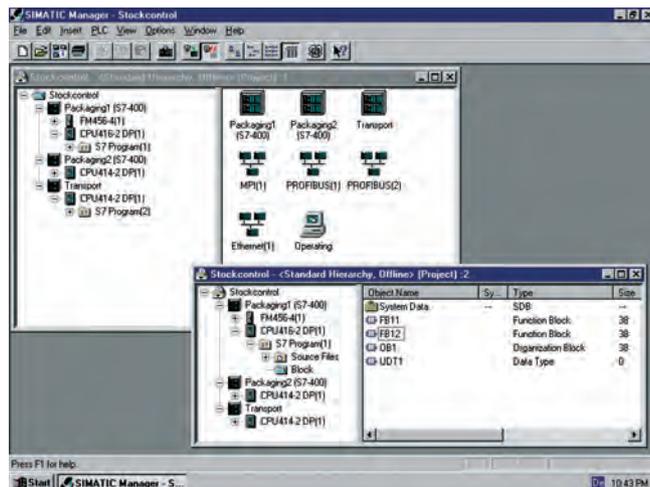
Software for SIMATIC Controllers

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 generation of S7-1200, S7-1500 and ET 200SP CPU PLCs as well as the S7-1500 Software Controller; of course 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 V5.7 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 V5.7 is offered for users of the previous V5.3...5.6 versions.
- A 5.6 license is also valid for the version V5.7.
- 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 under <http://www.siemens.com/simatic-licenses>.

Ordering data

STEP 7 Version 5.7

Target system:
SIMATIC S7-300/400, SIMATIC C7
Requirement:
Windows 10/11
Professional/Enterprise,
Windows Server 2016/2019/2022
Type of delivery:
English, German, French, Spanish,
Italian

Floating license on DVD;
Software and documentation on
DVD, license key on USB flash drive

Floating license, download¹⁾;
Software, license key and
documentation as download;
Consignee 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,
download¹⁾;
Software, license key and
documentation as download;
Consignee email address required
for delivery

Upgrade floating license V5.3... 5.6
to V5.7; on DVD;
Software and documentation on
DVD, license key on USB flash drive

Upgrade floating license
V5.3...V5.6 to V5.7, download¹⁾;
Software, license key and
documentation as download;
Consignee email address required
for delivery

Upgrade floating license V5.6 to
V5.7, download¹⁾;
Software, license key and
documentation as download;
Consignee email address required
for delivery

STEP 7 Version 5.7 Japanese

Target system:
SIMATIC S7-300/400, SIMATIC C7,
SIMATIC WinAC
Requirement:
Windows 10/11
Professional/Enterprise,
Windows Server 2016/2019/2022
Type of delivery:
English, Japanese;
incl. license key on USB flash drive,
with electronic documentation

Floating license Japanese on DVD;
Software and documentation on
DVD, license key on USB flash drive

Upgrade floating license Japanese
V5.3... 5.6 to V5.7; on DVD;
Software and documentation on
DVD, license key on USB flash drive

Floating license, download¹⁾;
Software, license key and
documentation as download;
Consignee email address required
for delivery

Upgrade floating license
V5.3...V5.6 to V5.7, download¹⁾;
Software, license key and
documentation as download;
Consignee email address required
for delivery

Article No.

6ES7810-4CC12-0YA5

6ES7810-4CE12-0YB5

6ES7810-4CC12-0YA6

6ES7810-4CE12-0YB6

6ES7810-4CC12-0YE5

6ES7810-4CE12-0YE5

6ES7810-4CE12-0YC5

6ES7810-4CC12-0JA5

6ES7810-4CC12-0JE5

6ES7810-4CE12-0JB5

6ES7810-4CE12-0JE5

1) Up-to-date information and download availability can be found at <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7

Ordering data	Article No.	Ordering data	Article No.
STEP 7 Version 5.7 Chinese Target system: SIMATIC S7-300/400, SIMATIC C7 Requirement: Windows 10/11 Professional/Enterprise, Windows Server 2016/2019/2022 Type of delivery: English, Chinese; incl. license key on USB flash drive, with electronic documentation Floating license Chinese on DVD Upgrade floating license Chinese V5.3...V5.6 to V5.7; on DVD	6ES7810-4CC12-0KA5 6ES7810-4CC12-0KE5	MPI cable For linking SIMATIC S7 and PG through MPI (5 m)	6ES7901-0BF00-0AA0
SIMATIC Manual Collection DL in 5 languages¹⁾ All manuals for S7- 1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT Consignee email address required for delivery.	6ES7998-8XE01-8YE0	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 programming device/PC or notebook to PROFIBUS or MPI; USB cable included in scope of supply	6GK1561-2AA00 6GK1571-0BA00-0AA0
SIMATIC Manual Collection DL in 5 languages¹⁾ Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration. Period of delivery and service: 1 year from date of invoice Consignee email address required for delivery.	6ES7998-8XE01-8YE2	Components for connecting the PC to Industrial Ethernet For PCs with a free PCI slot: Layer 2 Ethernet cards	

¹⁾ Up-to-date information and download availability can be found at <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7

Technical specifications

Article number	6GK1571-0BA00-0AA0
product type designation	PC adapter USB A2
transfer rate	
transfer rate	
• at the 1st interface according to PROFIBUS	9.6 kbit/s ... 12 Mbit/s
interfaces	
number of electrical connections	
• at the 1st interface according to PROFIBUS	1
number of interfaces according to USB	1
type of electrical connection	
• at the 1st interface according to PROFIBUS	9-pin Sub-D socket (RS 485)
• 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 power 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
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
design, dimensions and weights	
module format	USB V2.0 adapter
width	58 mm
height	26 mm
depth	105 mm
net weight	365 g
fastening method 35 mm DIN-rail mounting	No

Article number	6GK1571-0BA00-0AA0
product type designation	PC adapter USB A2
product features, product functions, product components general	
number of plug-in cards of same design plug-in per PC station	1
number of units note	-
product functions diagnostics	
product function	
• port diagnostics	Yes
standards, specifications, approvals	
reference code	
• according to IEC 81346-2:2019	KEC
product function is supported	Yes; acc. to IEC 61406-1:2022
identification link	
standards, specifications, approvals Environmental Product Declaration	
global warming potential [CO2 eq]	
• total	42.7 kg
• during manufacturing	14.95 kg
• during operation	27.62 kg
• after end of life	0.13 kg
further information internet links	
internet link	
• to website: Selection guide for cables and connectors	https://support.industry.siemens.com/cs/ww/en/view/109766358
• to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
• to website: Industrial communication	https://www.siemens.com/simatic-net
• to web page: SiePortal	https://sieportal.siemens.com/
• to website: Image database	https://www.automation.siemens.com/bilddb
• to website: CAx-Download-Manager	https://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com

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 Software 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 PLCs 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 2021 SR3 are only available as combo licenses together with STEP 7 Professional V20 (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 the version V20/2021 SR3 Combo is available for users of the previous versions STEP 7 Professional 2006...2010.
- The license of the version V16/2017 Combo can also be used for STEP 7 V5.7.
- PowerPack and upgrade enable migration from STEP 7 V5.7 to STEP 7 Professional V20/2021 SR3 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 under

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

Ordering data	Article No.	Article No.
STEP 7 Professional Target system: SIMATIC S7-300/-400, SIMATIC S7-1200/-1500 Requirement: Windows Server 2016/2019/2022, Windows 10/11 Professional, Windows 10/11 Enterprise		
SIMATIC STEP 7 Professional V18/2021 SR1 Combo incl. TIA Portal Floating license for 1 user; eng. SW; SW and documentation on DVD, license key on USB flash drive; Class A; 5/9 languages (en, de, fr, es, it)/ (zh, ru, ja, ko)	6ES7810-5CC15-0YA5	SIMATIC STEP 7 Professional V20/2021 SR3 Combo incl. TIA Portal Floating license for 1 user; eng. SW; SW and documentation on DVD, license key on USB flash drive; Class A; 5/9 languages (en, de, fr, es, it)/ (zh, ru, ja, ko)
SIMATIC STEP 7 Professional V19/2021 SR2 Combo incl. TIA Portal Floating license for 1 user; eng. SW; SW and documentation on DVD, license key on USB flash drive; Class A; 5/9 languages (en, de, fr, es, it)/ (zh, ru, ja, ko)	6ES7810-5CC16-0YA5	SIMATIC STEP 7 Professional V18/2021 SR1 Combo incl. TIA Portal; download²⁾ Floating license for 1 user; eng. SW; software, documentation and license key download; Class A; 5/9 languages (en, de, fr, es, it)/ (zh, ru, ja, ko) Consignee email address required for delivery

²⁾ Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7 Professional

Ordering data	Article No.	Article No.	
SIMATIC STEP 7 Professional V19/2021 SR2 Combo incl. TIA Portal; download²⁾ Floating license for 1 user; eng. SW; SW, documentation and license key as download; Class A; 5/9 languages (en, de, fr, es, it)/ (zh, ru, ja, ko) Consignee email address required for delivery	6ES7810-5CE16-0YB5	SIMATIC STEP 7 Prof. V20 Combo Legacy; Upgrade V11/2010...V16/2017 Combo-> V20/2021 SR3 Combo; floating license download²⁾; incl. S7 PM; Engineering software in the TIA Portal; SW, documentation and license key for download; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1500/1200/300/400/ WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels. Consignee email address required for delivery.	6ES7822-1AE24-0YE3
SIMATIC STEP 7 Professional V20/2021 SR3 Combo incl. TIA Portal; download²⁾ Floating license for 1 user; eng. SW; SW, documentation and license key as download; Class A; 5/9 languages (en, de, fr, es, it)/ (zh, ru, ja, ko) Consignee email address required for delivery	6ES7810-5CE17-0YB5	SIMATIC STEP 7 Prof. V20 Combo; Upgrade V11...V19 -> V20 or V17/2021 Combo...V19/2021 SR2 Combo-> V20/2021 SR3 Combo Floating license; engineering software in the TIA Portal; software and documentation on DVD; license key on USB flash drive; Class A; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1500/1200/300/400/ WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels. Content: set (4x DVD + 1x USB)	6ES7822-1AA24-0YE5
SIMATIC 50 h Eng. V19 Combo floating license download²⁾ 50 hours of usage time for the following SIMATIC engineering software: STEP 7 Professional 2021 SR2, STEP 7 Professional V19, WinCC flexible 2008, WinCC Professional V19, STEP 7 Distributed Safety V5.4, STEP 7 Safety Advanced V19; software, documentation and license key for download Consignee email address required for delivery	6ES7823-1GE23-0YA5	SIMATIC STEP 7 Prof. V20 Combo; Upgrade V11...V19 -> V20 or V17/2021 Combo...V19/2021 SR2 Combo-> V20/2021 SR3 Combo; download²⁾ Floating license download; engineering software in the TIA Portal; SW, documentation and license key for download; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1500/1200/300/400/ WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels. Consignee email address required for delivery.	6ES7822-1AE24-0YE5
SIMATIC 50 h Eng. V20 Combo floating license download²⁾ 50 hours of usage time for the following SIMATIC engineering software: STEP 7 Professional 2021 SR3, STEP 7 Professional V20, WinCC flexible 2008, WinCC Professional V20, STEP 7 Distributed Safety V5.4, STEP 7 Safety Advanced V20; software, documentation and license key for download Consignee email address required for delivery.	6ES7823-1GE24-0YA5	SIMATIC STEP 7 Prof. V19 Legacy PowerPack & upgrade STEP 7 V5.3. V5.6 -> V19/2021 SR2 combo floating license; incl. S7 PM Engineering software in the TIA Portal; software and documentation on DVD; license key on USB flash drive; Class A; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1200/1500, S7-300/400/WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels.	6ES7822-1AA23-0XC3
SIMATIC STEP 7 Prof. V20 Combo Legacy; Upgrade V11/2010...V16/2017 Combo-> V20/2021 SR3 Combo; floating license; incl. S7 PM Engineering software in the TIA Portal; software and documentation on DVD; license key on USB flash drive; Class A; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1500/1200/300/400/ WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels. Content: set (5x DVD + 1x USB)	6ES7822-1AA24-0YE3		

²⁾ Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7 Professional

Ordering data	Article No.	Article No.
<p>SIMATIC STEP 7 Professional Legacy PowerPack & upgrade STEP 7 V5.3. V5.6-> V20/2021 SR3 combo floating license download²⁾</p> <p>Engineering software in the TIA Portal; software, documentation and license key for download; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1500/1200/300/400/WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels. -- For system requirements, see www.siemens.com/compatool. Consignee email address required for delivery.</p>	6ES7822-1AE23-0XC3	<p>Software Update Service (Compact Edition)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. Delivery items to be combined must be ordered as one item.</p> <ul style="list-style-type: none"> STEP 7 Professional and STEP 7 Professional in the TIA Portal <p>6ES7810-5CC00-0YM2</p>
<p>SIMATIC STEP 7 Professional PowerPack & upgrade STEP 7 V5.7-> V20/2021 SR3; combo floating license download²⁾</p> <p>Engineering software in the TIA Portal; software, documentation and license key for download; 9 languages: en, de, zh included, fr, es, it, ru, ja, ko as download; for configuration of SIMATIC S7-1200/1500, SIMATIC S7-300/400/WinAC, SIMATIC Basic Panels, SIMATIC Unified Basic Panels. Consignee email address required for delivery</p>	6ES7822-1AE23-0XC5	<p>Software Update Service (download)¹⁾²⁾</p> <p>Upgrades and Service Packs are available for downloading. Consignee email address required for delivery</p> <ul style="list-style-type: none"> STEP 7 Professional and STEP 7 Professional in the TIA Portal <p>6ES7810-5CC04-0YY2</p>
<p>Software Update Service</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>MPI cable</p> <p>For linking SIMATIC S7 and PG through MPI (5 m)</p> <p>6ES7901-0BF00-0AA0</p>
<p>Software Update Service (Standard Edition)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.)</p> <ul style="list-style-type: none"> STEP 7 Professional and STEP 7 Professional in the TIA Portal 	6ES7810-5CC04-0YE2	<p>Components for connecting a PC to MPI and PROFIBUS</p> <p>For PCs with a free PCI slot:</p> <p>CP 5612</p> <p>For PCs without a free PCI slot:</p> <p>USB A2 PC adapter</p> <p>For connecting a programming device/PC or notebook to PROFIBUS or MPI; USB cable included in scope of supply</p> <p>6GK1561-2AA00</p> <p>6GK1571-0BA00-0AA0</p>
		<p>Components for connecting the PC to Industrial Ethernet</p> <p>For PCs with a free PCI slot:</p> <p>Layer 2 Ethernet cards</p>

¹⁾ For more information on the Software Update Service, see page 12/ 2.

²⁾ Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

STEP 7 Professional

Technical specifications

Article number	6GK1571-0BA00-0AA0
product type designation	PC adapter USB A2
transfer rate	
transfer rate	
• at the 1st interface according to PROFIBUS	9.6 kbit/s ... 12 Mbit/s
interfaces	
number of electrical connections	
• at the 1st interface according to PROFIBUS	1
number of interfaces according to USB	1
type of electrical connection	
• at the 1st interface according to PROFIBUS	9-pin Sub-D socket (RS 485)
• 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 power 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
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

Article number	6GK1571-0BA00-0AA0
product type designation	PC adapter USB A2
design, dimensions and weights	
module format	USB V2.0 adapter
width	58 mm
height	26 mm
depth	105 mm
net weight	365 g
fastening method 35 mm DIN-rail mounting	No
product features, product functions, product components general	
number of plug-in cards of same design plug-in per PC station	1
number of units note	-
product functions diagnostics	
product function	
• port diagnostics	Yes
standards, specifications, approvals	
reference code	
• according to IEC 81346-2:2019	KEC
product function is supported	Yes; acc. to IEC 61406-1:2022
identification link	
standards, specifications, approvals Environmental Product Declaration	
global warming potential [CO2 eq]	
• total	42.7 kg
• during manufacturing	14.95 kg
• during operation	27.62 kg
• after end of life	0.13 kg
further information internet links	
internet link	
• to website: Selection guide for cables and connectors	https://support.industry.siemens.com/cs/ww/en/view/109766358
• to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
• to website: Industrial communication	https://www.siemens.com/simatic-net
• to web page: SiePortal	https://sieportal.siemens.com/
• to website: Image database	https://www.automation.siemens.com/bilddb
• to website: CAx-Download-Manager	https://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-SCL

Overview

- PASCAL-type high-level language
- Optimized for programming PLCs
- 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 V5.7 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 and without being tied to a specific workstation. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.7 is available for users of the previous versions as of V5.3.
- A separate update service can be purchased for S7 SCL.
- A trial license valid for 21 days is available for download via the Industry Online Support under <https://support.industry.siemens.com/cs/ww/en/view/109973519>.

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 under

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

Ordering data

Article No.

SIMATIC S7-SCL, Version 5.7

Task:
High-level language programming
Target system:
SIMATIC S7-300 (CPU 314 or higher),
SIMATIC S7-400,
SIMATIC C7
Requirement:
STEP 7 from V5.7; Windows 10/11
Professional/Enterprise,
Windows Server 2016/2019/2022
Type of delivery:
On CD; English, German, French,
Spanish, Italian;
license key on USB flash drive,
with electronic documentation

Floating license

6ES7811-1CC08-0YA5

Software Update Service
(requires current software version)¹⁾

6ES7811-1CA01-0YX2

Upgrade floating from V5.3 to V5.7

6ES7811-1CC08-0YE5

SIMATIC Manual Collection DL in 5 languages

6ES7998-8XE01-8YE0

All manuals for
S7-1200/1500/200/300/400,
LOGO!, SIMATIC DP, PC, PG,
STEP 7, Engineering SW,
Runtime SW, SIMATIC HMI,
SIMATIC NET, SIMATIC IDENT

Consignee email address required
for delivery.

SIMATIC Manual Collection DL in 5 languages

6ES7998-8XE01-8YE2

Software Update Service (SUS);
within the framework of this
contract, you will receive all current
software versions as a download
for one year. The contract is
automatically extended by 1 year
unless it is canceled 3 months
before expiration.

Period of delivery and service:
1 year from date of invoice

Consignee email address required
for delivery.

¹⁾ For more information on the Software Update Service, see page 12/ 2.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-SCL

Technical specifications

Engineering tool	S7-SCL
Current version	V5.7
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 statement 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 processing 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 requirements	
Operating system	Windows 10/11 Windows Server 2016/2019/2022
Required hard drive memory in the PG/PC	50 MB
Required software	STEP 7 V5.7

Engineering tool	S7-SCL
Properties	
Monitoring tags	Yes
Controlling tags	Yes
Single-step processing	Yes
Integration in CFC	Yes
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 of	
STEP 7 Professional	Yes
S7 Trainer Package	Yes
PCS 7	Yes
D7-SYS	-

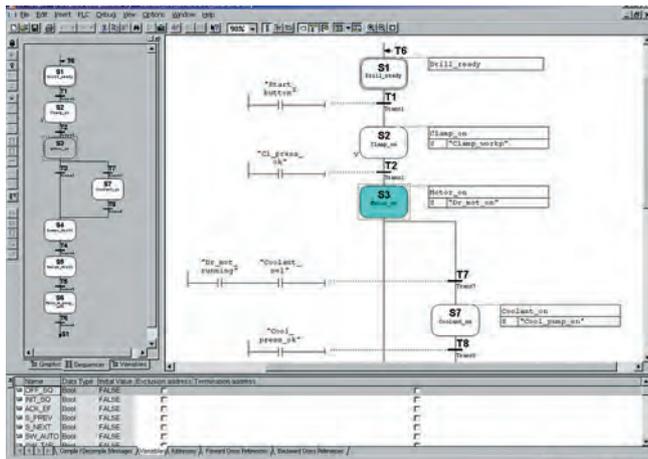
Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-GRAPH

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 diagnostics 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 V5.7 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 specific workstation. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.7 is available for users of previous versions as of V5.3.
- A separate update service can be purchased for S7-GRAPH.
- A trial license valid for 21 days is available for download via the Industry Online Support under <https://support.industry.siemens.com/cs/ww/en/view/109814095>.

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 under

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

Ordering data

Article No.

SIMATIC S7-GRAPH, Version 5.7

Task:
Configuring and programming of sequences
Target system:
SIMATIC S7-300, SIMATIC S7-400, SIMATIC C7
Requirement:
STEP 7 V5.7; Windows 10/11 Professional/Enterprise, Windows Server 2016/ 2019/2022
Type of delivery:
on CD; German, English, French, Spanish, Italian;
including license key on USB flash drive, with electronic documentation

Floating license
Software Update Service (requires current software version)¹⁾
Upgrade floating license from V5.3 to V5.7

6ES7811-0CC08-0YA5

6ES7811-0CA01-0YX2

6ES7811-0CC08-0YE5

SIMATIC Manual Collection DL in 5 languages

All manuals for S7-1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT
Consignee email address required for delivery.

6ES7998-8XE01-8YE0

SIMATIC Manual Collection DL in 5 languages

Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration.
Period of delivery and service:
1 year from date of invoice
Consignee email address required for delivery.

6ES7998-8XE01-8YE2

¹⁾ For more information on the Software Update Service, see page 12/ 2.

Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-GRAPH

Technical specifications

Engineering tool	S7-GRAPH
Current version	V5.7
Software class	A
Application areas	
Can be used for	Graphical programming of sequential controls 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 processing machines • Pick-and-place machines • Woodworking machines • Metalworking machines • Paper and printing machinery • Testing machines • Rolling mills • Coilers • Leisure and entertainment facilities
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 requirements	
Operating system	Windows 10/11 Windows Server 2016/2019/2022
Required hard drive memory in the PG/PC	50 MB
Required software	STEP 7 V5.7

Engineering tool	S7-GRAPH
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 <ul style="list-style-type: none"> • Tool • Electronic manual • Getting Started guide • Examples License key 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 key on USB flash drive Certificate of License Product information
Software Update Service (SUS)	
Also a component of	
STEP 7 Professional	Yes
S7 Trainer Package	Yes
PCS 7	-
D7-SYS	-

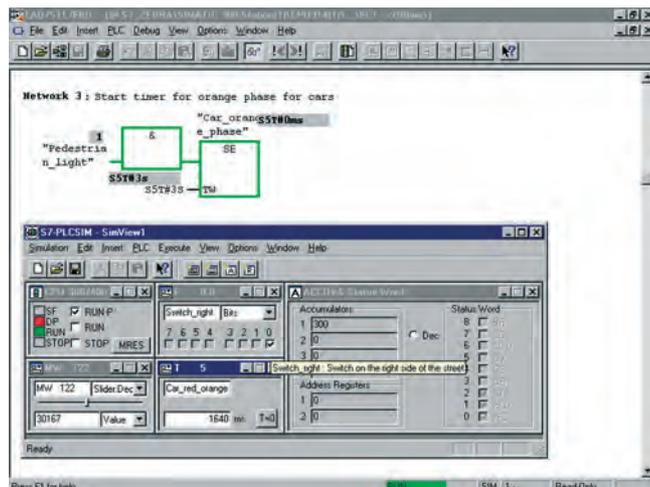
Software for SIMATIC Controllers

STEP 7 V5.x

Basic software and editors

S7-PLCSIM

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 and without being tied to a specific workstation. The number of licenses acquired 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 via the Industry Online Support under <https://support.industry.siemens.com/cs/ww/en/view/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 under

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

Ordering data

S7-PLCSIM, Version 5.4

Task:
Functional testing of SIMATIC S7 user blocks on programming device/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
Type of delivery:
on CD; English, German, French, Spanish, Italian;
license key on USB flash drive, with electronic documentation

Floating license

Software Update Service (requires current software version)¹⁾

Floating license upgrade to V5.4

SIMATIC Manual Collection DL in 5 languages

All manuals for S7-1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT

Consignee email address required for delivery.

SIMATIC Manual Collection DL in 5 languages

Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration.
Period of delivery and service:
1 year from date of invoice
Consignee email address required for delivery.

¹⁾ For more information on the Software Update Service, see page 12/ 2.

Article No.

6ES7841-0CC05-0YA5

6ES7841-0CA01-0YX2

6ES7841-0CC05-0YE5

6ES7998-8XE01-8YE0

6ES7998-8XE01-8YE2

Technical specifications

Engineering tool	S7-PLCSIM
Type of license	Floating license
Software class	A
Current version	V5.4
Target system (recommended)	SIMATIC S7-300 SIMATIC S7-400 SIMATIC C7
Operating system	Windows 10/11 Windows Server
Required software packages	STEP 7 V5.4 with SP4 or SP5 or STEP 7 > V5.5
Disk space required in programming device/PC	5 MB

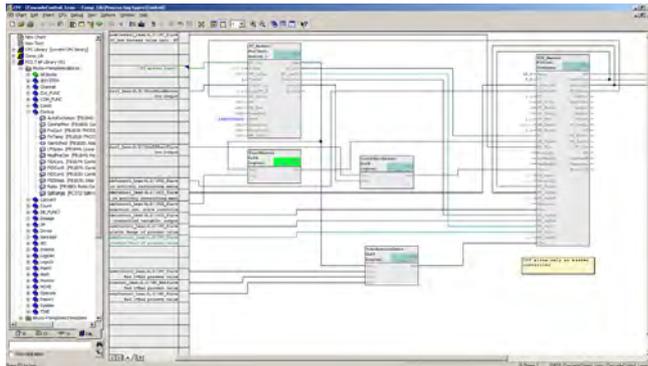
Software for SIMATIC Controllers

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 and without being tied to a specific workstation. The number of licenses acquired 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 under

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

Ordering data

SIMATIC CFC, Version 9.0

Task:

Graphic configuring and programming of automation applications in the form of technology charts

Target system:

SIMATIC S7-300/400,
SIMATIC WinAC, D7-SYS

Requirements:

STEP 7 V5.6 or higher

Type of delivery:

Engineering software and electronic documentation on CD-ROM, license key on USB flash drive, Certificate of License

Floating license

6ES7658-1EX58-0YA5

Floating license for download.

6ES7658-1EX58-0YH5

Email address required for delivery²⁾

Floating license upgrade from V8.x to V9.0

6ES7658-1EX58-0YE5

Floating license upgrade from V8.x to V9.0 for download.

6ES7658-1EX58-0YK5

Email address required for delivery²⁾

Software Update Service (requires current software version)¹⁾

6ES7658-1EX00-2YL8

Software Update Service for multiple orders (requires current software version); the delivery items are combined. For multiple contracts, only 1 package (1 data storage medium set and the corresponding number of licenses) will be supplied. Can be ordered with 5 or more contracts¹⁾

6ES7658-1EX00-2YM8

Delivery items to be combined must be ordered as one item.

Software Update Service (requires current software version)¹⁾

6ES7658-1EX00-2YV8

Email address required for delivery

SIMATIC Manual Collection DL in 5 languages²⁾

6ES7998-8XE01-8YE0

All manuals for S7-1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT

Consignee email address required for delivery.

SIMATIC Manual Collection DL in 5 languages²⁾

6ES7998-8XE01-8YE2

Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration.

Period of delivery and service: 1 year from date of invoice

Consignee email address required for delivery.

¹⁾ For more information on the Software Update Service, see page 12/ 2.

²⁾ Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

CFC

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 processing 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 requirements	
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 LTSB (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

EngineeringTool	CFC
Properties	
Monitoring tags	Yes
Controlling tags	Yes
Single-step processing	-
Integration in CFC	Yes
Program runtimes	
with S7-300 (typical)	Depending on the interconnected blocks
with S7-400 (typical)	Depending on the interconnected blocks
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	based on the IEC standard
Status of PLCopen activities	-
Available versions/licenses	
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 of	
STEP 7 Professional	-
S7 Trainer Package	-
PCS 7	Yes
D7-SYS	Yes

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 and without being tied to a specific workstation. The number of licenses acquired 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 via the Industry Online Support under <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 under this

<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⁾ Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

Safety Integrated for Process Automation

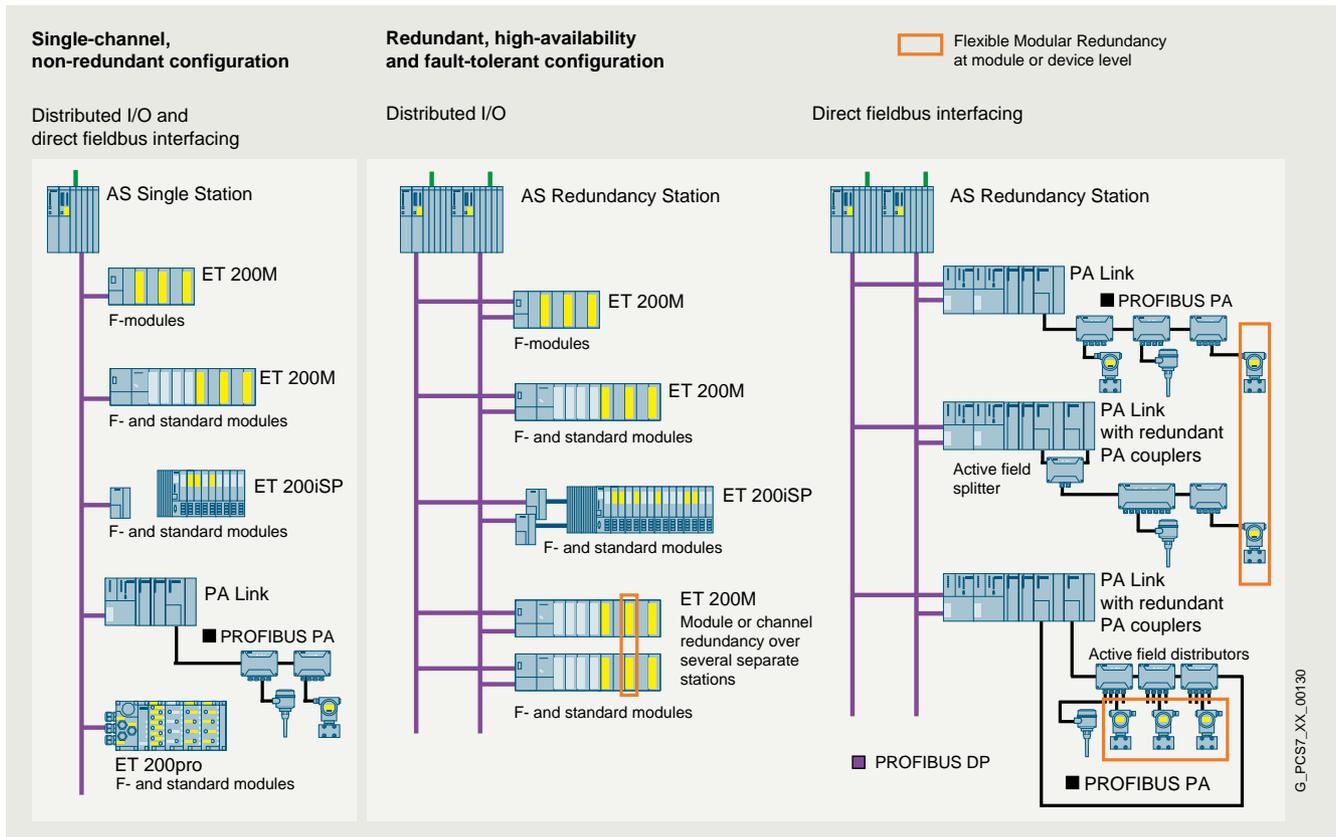
Overview



Safety Integrated for Process Automation is the comprehensive range of products and services from Siemens for safe, fault-tolerant applications in the process industry. This is characterized by:

- Safety-related F/FH automation systems of the S7-400 series (see "Automation Systems" section)
- Safe communication with the PROFIsafe profile via PROFIBUS (see section "Industrial Communication, PROFIBUS") or PROFINET (see section "Industrial Communication, PROFINET")
- Fail-safe transmitters (SITRANS P DS III) on the PROFIBUS PA with PROFIsafe (see Catalog FI 01, Field devices for process automation)
- ET 200SP HA, ET 200iSP, ET 200M, ET 200S and ET 200pro distributed I/O systems with safety-oriented F-I/O modules/submodules (see "Process I/O" section)
- Fail-safe process instruments/devices for connection to ET 200 distributed I/O systems (see Catalog FI 01, Field Instruments for Process Automation)
- SIMATIC Safety Integrated software for implementation and operation of safety applications, with additional components for the Engineering System and the operator stations: SIMATIC S7 F-systems, SIMATIC S7 Safety Matrix
- Special applications, for example, Partial Stroke Test
- Safety lifecycle management with support by highly qualified solution partners: services for all phases in the lifecycle of a safety instrumented system (analysis, implementation, and operation)

Design



Safety-related design versions with PROFIBUS

Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

Safety Integrated for Process Automation

Design

The PROFIsafe profile allows safety-related communication between the automation system (controller) and the process I/O via either PROFIBUS or PROFINET. The decision for choosing either PROFINET IO or the PROFIBUS DP/PA fieldbuses has a significant influence on the architecture of the safety-related system.

Safety-related design versions with PROFIBUS

In the case of a safety-related system with PROFIBUS communication integrated into SIMATIC PCS 7, a distinction is made across all architecture levels between two design versions:

- Single-channel, non-redundant design
- Redundant, fault-tolerant design

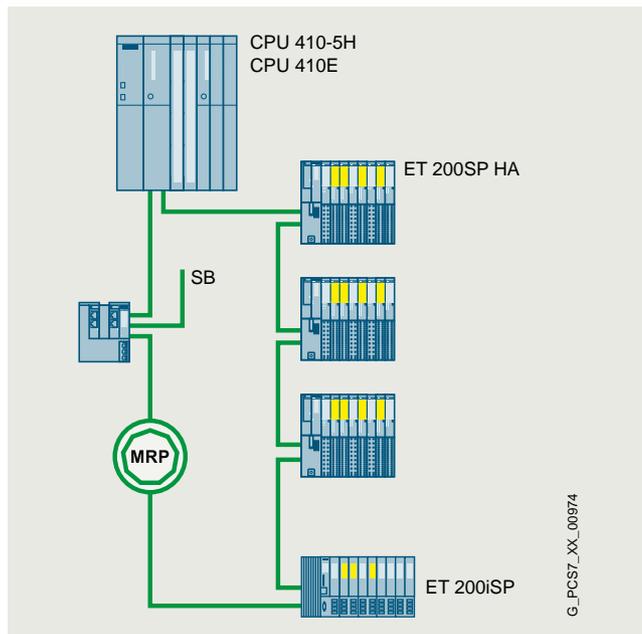
Both design versions are extremely variable, and offer a large scope for different customer requirements. Standard automation (basic process control) and safety-related functions can be combined flexibly, not only in the area of distributed I/O. Even at the controller level, they can be combined in one system or separated. In addition, there are numerous possibilities arising from the use of flexible modular redundancy.

At the individual architectural levels (controller, fieldbus, I/O), you have the configuration alternatives shown in the figure in line with the I/O used (ET 200SP HA, ET 200iSP, ET 200M and ET 200pro remote I/O stations or PROFIBUS PA devices with PA profile 3.0 or higher).

Safety-related design versions with PROFINET

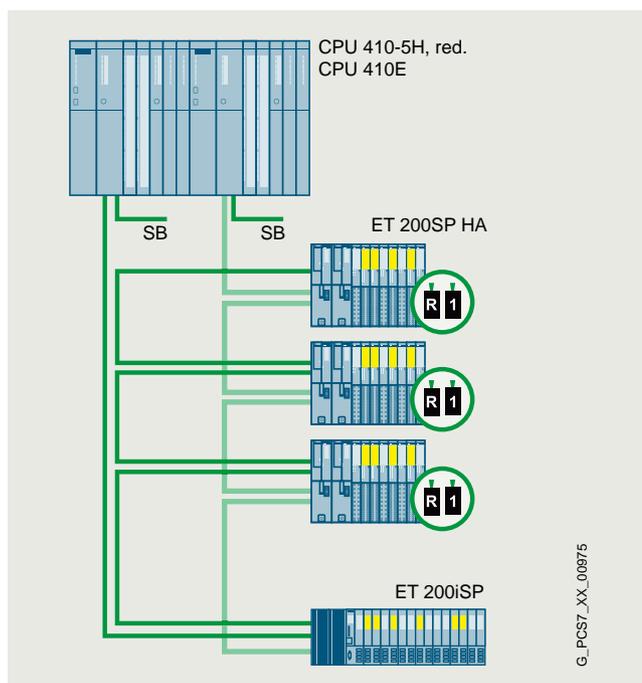
Safety-related AS single stations (F systems) and AS redundancy stations (FH systems) from the S7-400 range can be networked simply and effectively with ET 200M remote I/O stations via PROFINET IO. For this purpose, the PN/IE interface integrated in the CPU and the corresponding PROFINET interface module in the remote I/O stations (e.g. IM 155-6 PN HA for ET 200SP HA) are available on the automation system side.

The availability of the I/O devices on an AS Single Station (F-system) can be increased by a ring topology with media redundancy. If the transmission link in the ring is interrupted at one point, for example, due to a break in the ring cable or the failure of a station, the redundancy manager then immediately activates the alternative communication path.



Safety-related PROFINET IO communication with media redundancy

The maximum availability with minimum error handling times is achieved by the AS Redundancy Station (FH system) in conjunction with the redundant PROFINET configuration R1. From the CPUs of the H system onwards, the R1 devices are connected via two separate line structures. In order to increase availability, we recommend reverse cabling (as shown in the blueprint). In contrast to the single-sided I/O device connection to only one CPU, failure of a CPU in this case does not automatically lead to failure of the connected I/O devices.



Safety-related PROFINET IO communication with system redundancy

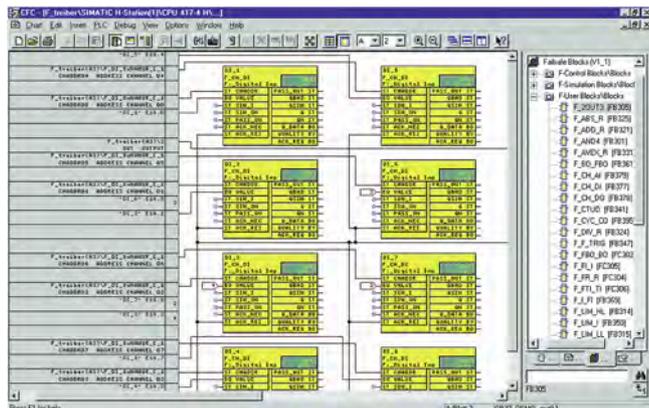
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

Safety Integrated for Process Automation > SIMATIC S7 F Systems

Overview



The SIMATIC S7 F Systems engineering tool for configuration of safety-related SIMATIC PCS 7 automation systems and safety-related F-modules from the ET 200 range is integrated in the SIMATIC Manager. SIMATIC S7 F Systems are based on pre-configured and German Technical Inspectorate certified blocks. The following functions are then available:

- Parameterization of CPU and F signal modules
- Creation of safety-related applications in the CFC

Ordering data

Article No.

Article No.

SIMATIC S7 F Systems

SIMATIC S7 F Systems V6.4

Programming and configuration environment for creating and using safety-oriented STEP 7 programs
2 languages (English, German), software class A

Runs on the following operating systems

- Windows 10 Enterprise 2015 LTSC (64-bit),
Windows 10 Enterprise 2019 LTSC 64-bit,
Windows Server 2016 Standard Edition 64-bit,
Windows Server 2016 Datacenter Edition 64-bit,
Windows Server 2019 Standard Edition 64-bit,
Windows Server 2019 Datacenter Edition 64-bit

Floating license for 1 user, without SIMATIC PCS 7 Software Media Package

- Goods 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
- 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)
Note:
Email address required

6ES7833-1CC46-0YA5

6ES7833-1CC46-0YH5

SIMATIC S7 F Systems Software Media Package

SIMATIC S7 F Systems Software Media Package V6.4

Installation software without license
2 languages (English, German), software class A

Runs on the following operating systems:

- Windows 10 Enterprise 2015 LTSC 64-bit,
Windows 10 Enterprise 2019 LTSC 64-bit,
Windows Server 2016 Standard Edition 64-bit,
Windows Server 2016 Datacenter Edition 64-bit,
Windows Server 2019 Standard Edition 64-bit,
Windows Server 2019 Datacenter Edition 64-bit

Without SIMATIC PCS 7 Software Media Package

Note:
Can only be used in conjunction with a valid license.

- Goods delivery
Software on DVD and Certificate of License

6ES7833-4CC46-0YT8

- Online delivery
Software download and online Certificate of License

6ES7833-4CC46-0YG8

Note:
Email address required!

Upgrades for SIMATIC S7 F Systems

See "Upgrades for Safety Integrated for Process Automation" in section "Update/upgrade packages", "Updates/upgrades asynchronous to the PCS 7 version".

Note:
With a SIMATIC S7 F Systems Upgrade from V5.x to V6.x, the type of SIMATIC S7 F Systems License changes from single license to floating license.

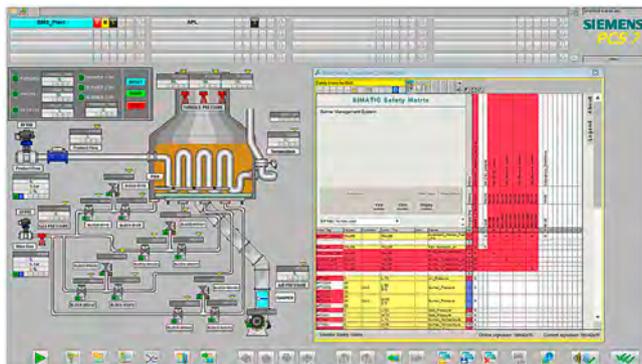
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

Safety Integrated for Process Automation > SIMATIC S7 Safety Matrix

Overview



Process image of an operator station with the SIMATIC S7 Safety Matrix Viewer displayed

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

The 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.

Ordering data

Article No.

Article No.

SIMATIC S7 Safety Matrix

Runs with the following operating systems (see SIMATIC S7 Safety Matrix V6.3 Readme for the latest information):

- On engineering station under:
 - MS Windows 7 SP1 (64-bit) (Ultimate, Enterprise, Professional)
 - MS Windows 10 Enterprise 2015 LTSC
 - MS Windows 10 Enterprise 2019 LTSC
 - MS Windows Server 2008 R2 SP1
 - MS Windows Server 2012 R2 Standard
 - MS Windows Server 2016 Standard
 - MS Windows Server 2019 Standard
- On operator station (for Safety Matrix Viewer) under:
 - MS Windows 7 Ultimate SP1 (32-bit)
 - MS Windows 7 SP1 (64-bit) (Ultimate, Enterprise, Professional)
 - MS Windows 10 Enterprise 2015 LTSC
 - MS Windows 10 Enterprise 2019 LTSC
 - MS Windows Server 2008 R2 SP1
 - MS Windows Server 2012 R2 Standard
 - MS Windows Server 2016 Standard
 - MS Windows Server 2019 Standard

SIMATIC S7 Safety Matrix Tool V6.3

Creation, configuration, compilation and loading of the SIMATIC S7 Safety Matrix as well as operator control and monitoring in a SIMATIC PCS 7 environment

2 languages (German, English), software class A, floating license for 1 user

Without SIMATIC PCS 7 Software Media Package

- Goods delivery
License key on USB flash drive and Certificate of License, bundled with 1 x SIMATIC S7 Safety Matrix Software Media Package per order item
- Online delivery
License key download and online Certificate of License, combined with SIMATIC S7 Safety Matrix Software Media Package (software download and online Certificate of License)
Note:
Email address required; installation software also available separately as SIMATIC S7 Safety Matrix Software Media Package.

6ES7833-1SM03-0YA5

6ES7833-1SM03-0YH5

Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

Safety Integrated for Process Automation > SIMATIC S7 Safety Matrix

Ordering data	Article No.	Article No.	
<p>SIMATIC S7 Safety Matrix Viewer V6.3 For operator control and monitoring of the SIMATIC S7 Safety Matrix via OS Single Station/OS Client</p> <p>Runtime software, 2 languages (German, English), software class A, floating license for 1 user</p> <p>Without SIMATIC PCS 7 Software Media Package</p> <ul style="list-style-type: none"> • Goods delivery License key on USB flash drive and Certificate of License, bundled with 1 × SIMATIC S7 Safety Matrix Software Media Package per order item • Online delivery License key download and online Certificate of License, combined with SIMATIC S7 Safety Matrix Software Media Package (software download and online Certificate of License) <p><u>Note:</u> Email address required; installation software also available separately as SIMATIC S7 Safety Matrix Software Media Package.</p>	<p>6ES7833-1SM63-0YA5</p> <p>6ES7833-1SM63-0YH5</p>	<p>SIMATIC S7 Safety Matrix Software Media Package</p> <p>SIMATIC S7 Safety Matrix Software Media Package V6.3 (incl. SP) Installation software without license, 2 languages (German, English), software class A</p> <p>Without SIMATIC PCS 7 Software Media Package</p> <p><u>Note:</u> Can only be used in conjunction with a valid license.</p> <ul style="list-style-type: none"> • Goods delivery Software on DVD and Certificate of License • Online delivery Software download and online Certificate of License <p><u>Note:</u> Email address required!</p> <p>Upgrades for SIMATIC S7 Safety Matrix Tool and SIMATIC S7 Safety Matrix Viewer See "Safety Integrated Upgrades for Process Automation", chapter "Update/upgrade packages", section "Updates/upgrades asynchronous to the PCS 7 version"</p>	<p>6ES7833-4SM36-0YT8</p> <p>6ES7833-4SM36-0YG8</p>

Technical specifications

	Safety lifecycle support	Operating modes	Hardware requirements	Software requirements
SIMATIC S7 Safety Matrix Tool V6.3	Complete lifecycle: <ul style="list-style-type: none"> • Analysis phase • Implementation phase • Operation and maintenance phase 	Offline, online	SIMATIC PCS 7 with safety-related automation systems (SIMATIC S7 F Systems RT license integrated) Installation basis: SIMATIC PCS 7 Engineering Station	<ul style="list-style-type: none"> • Microsoft Windows operating system (in line with the software requirements of the SIMATIC PCS 7 version) • For offline testing: S7-PLCSIM or SIMIT • SIMATIC S7 F Systems V6.1 SP2 and higher
SIMATIC S7 Safety Matrix Viewer V6.3	Operating phase (operator control and monitoring)	Online	SIMATIC PCS 7 with safety-related automation systems (SIMATIC S7 F Systems RT license integrated) Installation basis: SIMATIC PCS 7 Operator Station, single station or client version	Microsoft Windows operating system (in line with the software requirements of the SIMATIC PCS 7 version)

System requirements for SIMATIC S7 Safety Matrix

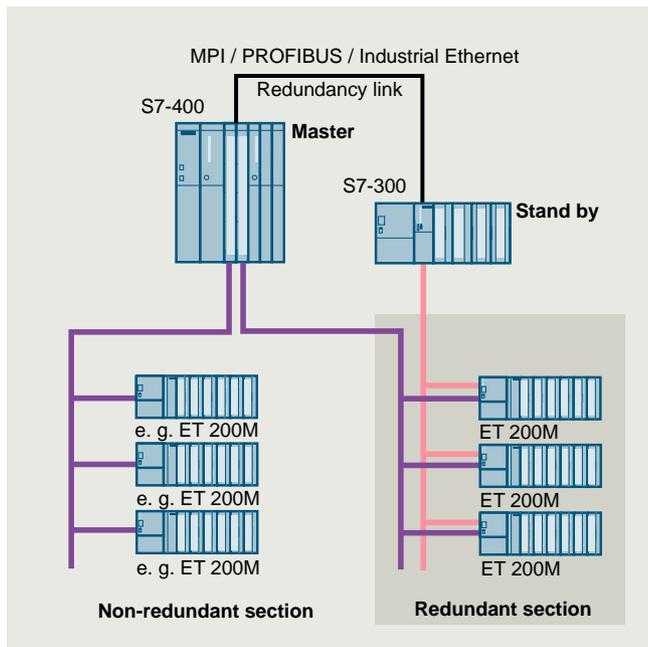
Software for SIMATIC Controllers

STEP 7 V5.x

Options for programming and design

Software redundancy

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

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

Type of delivery:
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 DL in 5 languages

6ES7998-8XE01-8YE0

All manuals for S7-1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT

Consignee email address required for delivery.

SIMATIC Manual Collection DL in 5 languages

6ES7998-8XE01-8YE2

Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration.

Period of delivery and service:
1 year from date of invoice

Consignee email address required for delivery.

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
Usable modules for ET 200M	IM 153-2; all DI/O, AI/O for ET 200M; FM 350-1 counter module; CP 341
Software requirements	
Configuration/programming	STEP 7 V4.0
Communication configuration for redundant PROFIBUS DP	NCM S7 for PROFIBUS

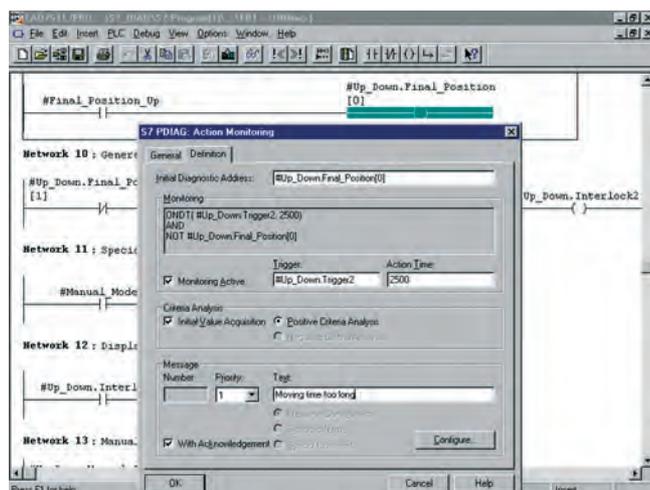
Software for SIMATIC Controllers

STEP 7 V5.x

Options for diagnostics and service

S7-PDIAG

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 V5.7 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 and without being tied to a specific workstation. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 5.7 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 under

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

Ordering data

S7-PDIAG, Version 5.7

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 V5.7;
Windows Server 2016/2019/2022,
Windows 10/11 Professional,
Windows 10/11 Enterprise

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

Floating license

Software Update Service
(requires current software version)¹⁾

Upgrade to V5.7

SIMATIC Manual Collection DL in 5 languages

All manuals for
S7-1200/1500/200/300/400,
LOGO!; SIMATIC DP, PC, PG,
STEP 7, Engineering SW,
Runtime SW, SIMATIC HMI,
SIMATIC NET, SIMATIC IDENT
Consignee email address required
for delivery.

SIMATIC Manual Collection DL in 5 languages

Software Update Service (SUS);
within the framework of this
contract, you will receive all current
software versions as a download for
one year. The contract is
automatically extended by 1 year
unless it is canceled 3 months
before expiration.
Period of delivery and service:
1 year from date of invoice
Consignee email address required
for delivery.

¹⁾ For more information on the Software Update Service, see page 12/ 2.

Article No.

6ES7840-0CC08-0YA5

6ES7840-0CA01-0YX2

6ES7840-0CC08-0YE5

6ES7998-8XE01-8YE0

6ES7998-8XE01-8YE2

Technical specifications

Engineering tool	S7-PDIAG
Type of license	Floating license
Software class	A
Current version	V5.7
Target system (recommended)	SIMATIC S7-300 (CPU 314 or higher) SIMATIC S7-400
Operating system	Windows Server 2016/2019/2022, Windows 10/11 Professional, Windows 10/11 Enterprise
Required software packages	STEP 7 V5.7 or higher
Disk space required in programming device/PC	26 MB

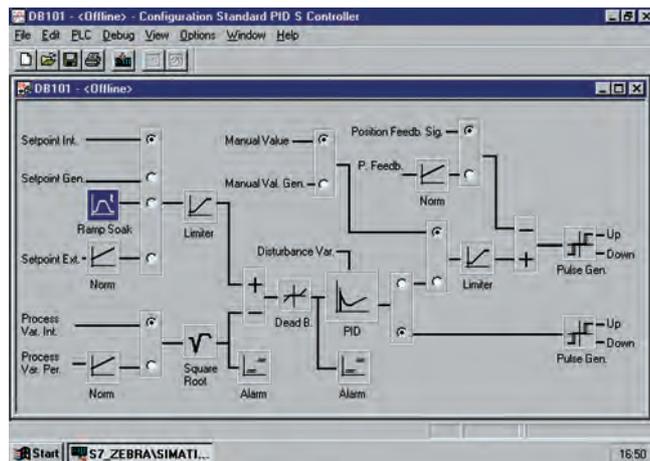
Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Standard PID Control

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 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 under

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

Ordering data

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

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

6ES7860-2AA21-0YX0

Single license without software and documentation

6ES7860-2AA21-0YX1

SIMATIC Manual Collection DL in 5 languages

All manuals for S7-1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT

Consignee email address required for delivery.

6ES7998-8XE01-8YE0

SIMATIC Manual Collection DL in 5 languages

Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration.

Period of delivery and service:
1 year from date of invoice

Consignee email address required for delivery.

6ES7998-8XE01-8YE2

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Standard PID Control

Technical specifications

Parameterization software	Standard PID Control					
Type of license	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					
Licensing forms	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

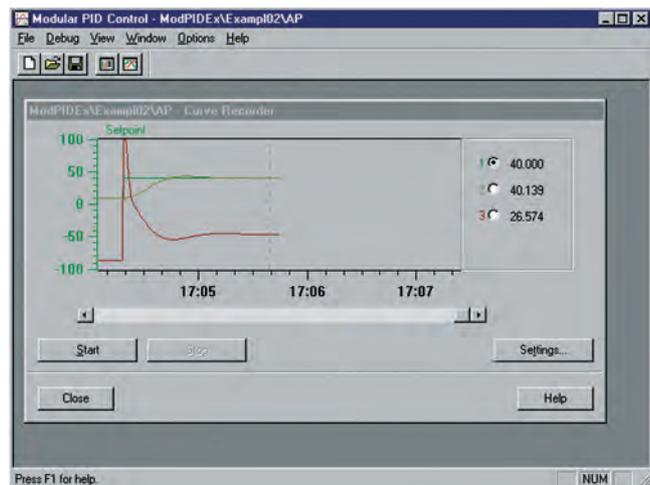
Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Modular PID Control

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 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 under

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

Ordering data

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

6ES7860-1AA10-0YX0

Single license, without software and documentation

6ES7860-1AA10-0YX1

SIMATIC Manual Collection DL in 5 languages

6ES7998-8XE01-8YE0

All manuals for S7-1200/1500/200/300/400, LOGO!, SIMATIC DP, PC, PG, STEP 7, Engineering SW, Runtime SW, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT

Consignee email address required for delivery.

SIMATIC Manual Collection DL in 5 languages

6ES7998-8XE01-8YE2

Software Update Service (SUS); within the framework of this contract, you will receive all current software versions as a download for one year. The contract is automatically extended by 1 year unless it is canceled 3 months before expiration.
Period of delivery and service:
1 year from date of invoice
Consignee email address required for delivery.

Technical specifications

Parameterization software	Modular PID Control
Type of license	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
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)

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Modular PID Control

Technical specifications

Standard function blocks	A_DEAD_B		CRP_IN		CPR_OUT	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• 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	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• 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	

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	

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Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > Modular PID Control

Technical specifications

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	

Standard function blocks	ROC_LIM		SCALE		SP_GEN	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• 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	
Storage space requirements	Load memory	Work memory	Load memory	Work memory	Load memory	Work memory
• 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
Licensing forms	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

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 software licenses with the Automation License Manager here:

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

Ordering data

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 DL in 5 languages

All manuals for
S7-1200/1500/200/300/400,
LOGO!, SIMATIC DP, PC, PG,
STEP 7, Engineering SW,
Runtime SW, SIMATIC HMI,
SIMATIC NET, SIMATIC IDENT

Consignee email address required
for delivery.

6ES7998-8XE01-8YE0

SIMATIC Manual Collection DL in 5 languages

Software Update Service (SUS);
within the framework of this contract,
you will receive all current software
versions as a download for one
year. The contract is automatically
extended by 1 year unless it is
canceled 3 months before expiration.
Period of delivery and service:
1 year from date of invoice

Consignee email address required
for delivery.

6ES7998-8XE01-8YE2

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Loadable function blocks > PID Self-Tuner

Technical specifications

Parameterization software	PID Self-Tuner			
Type of license	-			
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			
Licensing forms	-			
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

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

S7-Technology

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 under

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

Ordering data

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

Article No.

6ES7864-1CC42-0YA5

6ES7864-1CC42-0XH5

¹⁾ Up-to-date information and download availability can be found under <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 under <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 using STEP 7 (TIA Portal) to program these controllers, you require the optional package Easy Motion Control (TIA Portal).

Ordering data

Article No.

Easy Motion Control V2.1

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

6ES7864-0AC01-0YX0

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

6ES7864-0AF01-0YX0

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

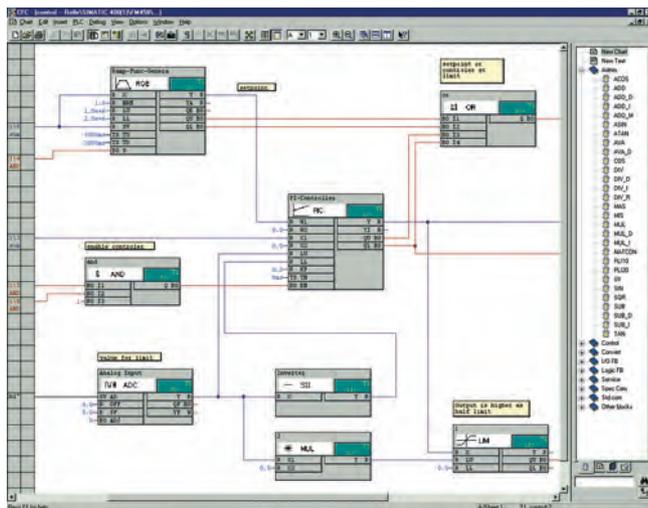
Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

D7-SYS

Overview



- Optional package for STEP 7 V5.7 SP2 for configuring closed-loop control and automation tasks with SIMATIC TDC
- 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 and without being tied to a specific workstation. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 10.0 is offered for users of previous versions V9.1 or higher.
- A separate Software 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 delivery.

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

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

Ordering data

Article No.

SIMATIC D7-SYS V10.0

Reference hardware:

SIMATIC TDC

Requirements:

MS Windows 10 Pro and Enterprise

(64-bit);

MS Windows 11 Pro and Enterprise

(64-bit);

MS Windows Server 2019 Standard

Edition (64-bit);

MS Windows Server 2022 Standard

Edition (64-bit);

STEP 7 V5.7

Type of delivery:

On DVD, en, de, with electronic

documentation

Floating license

Upgrade license from V9.1 to V10.0

Software Update Service¹⁾

6ES7852-0CC08-0YA5

6ES7852-0CC08-0YE5

6ES7852-0CC01-0YL5

¹⁾ For more information on the Software Update Service, see page 12/ 2.

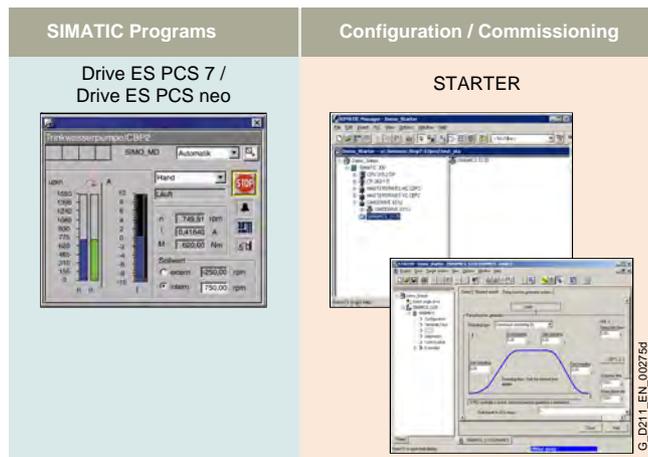
Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Drive ES engineering software

Overview



Drive ES/STARTER 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:

- STARTER
- Drive ES PCS 7 / Drive ES PCS neo Add-On

The Drive ES (**Drive Engineering Software**) fully integrates drives from Siemens into the world of Totally Integrated Automation (STEP 7 V5.x).

Ordering data

Article No.

Article No.

Drive ES PCS 7 V9.0 SPx ^{*)}

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:
DVD-ROM

Languages:

en, de, fr, it, es

With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (on paper)
- Runtime license (eCoL)
- Update service for single-user license
- Upgrade from V6.x/V7.x/V8.x/V9.x to V9.0 SPx ^{*)}

6SW1700-1JD00-0AA0

6SW1700-5JD00-1AC0

6SW1700-5JD00-1AH0

6SW1700-0JD00-0AB2

6SW1700-1JD00-0AA4

Drive ES PCS 7 APL V9.0 SPx ^{*)}

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:
DVD-ROM

Languages:

en, de, fr, it, es

With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (on paper)
- Runtime license (eCoL)
- Update service for single-user license
- Upgrade of Drive ES PCS 7 APL V8.x, V9.x to V9.0 SPx ^{*)} or Drive ES PCS 7 V6.x, V7.x, V8.x, V9.x classic to Drive ES PCS 7 APL V9.0 SPx ^{*)}

6SW1700-1JD01-0AA0

6SW1700-5JD00-1AC0

6SW1700-5JD00-1AH0

6SW1700-0JD01-0AB2

6SW1700-1JD01-0AA4

Drive ES PCS 7 V9.1 SPx ^{*)}

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

Requirement:
PCS 7 V9.1 or higher

Type of delivery:
DVD-ROM

Languages:

en, de, fr, it, es

With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (on paper)
- Runtime license (eCoL)
- Update service for single-user license
- Upgrade from V6.x/V7.x/V8.x/V9.x to V9.1 SPx ^{*)}

6SW1700-2JD00-0AA0

6SW1700-5JD00-1AC0

6SW1700-5JD00-1AH0

6SW1700-0JD00-0AB2

6SW1700-2JD00-0AA4

Drive ES PCS 7 APL V9.1 SPx ^{*)}

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

Requirement:
PCS 7 V9.1 or higher

Type of delivery:
DVD-ROM

Languages:

en, de, fr, it, es

With electronic documentation

- Single-user license incl. 1 runtime license
- Runtime license (on paper)
- Runtime license (eCoL)
- Update service for single-user license
- Upgrade of Drive ES PCS 7 APL V8.x, V9.x to V9.1 SPx ^{*)} or Drive ES PCS 7 V6.x, V7.x, V8.x, V9.x classic to Drive ES PCS 7 APL V9.1 SPx ^{*)}

6SW1700-2JD01-0AA0

6SW1700-5JD00-1AC0

6SW1700-5JD00-1AH0

6SW1700-0JD01-0AB2

6SW1700-2JD01-0AA4

^{*)} Orders are automatically supplied with the latest Service Pack (SP).

Software for SIMATIC Controllers

STEP 7 V5.x

Options for technology and drive systems

Drive ES engineering software

Ordering data	Article No.	Article No.
Drive ES PCS 7 V10.0 SPx^{*)} Block library for PCS 7 for the integration of drives in Classic Style (as predecessor) Requirement: PCS 7 V10.0 or higher Type of delivery: DVD-ROM, OSD Languages: en, de, fr, it, es With electronic documentation <ul style="list-style-type: none"> • Single-user license incl. 1 runtime license (DVD-ROM) • Single-user license incl. 1 runtime license (OSD) • Runtime license (on paper) • Runtime license (eCoL) • Update service for single-user license • Upgrade from V8.x/V9.x to V10.0 SPx^{*)} for DVD-ROM • Upgrade from V8.x/V9.x to V10.0 SPx^{*)} for OSD 	6SW1700-3JD00-0AA0 6SW1700-3JD00-0AG0 6SW1700-5JD00-1AC0 6SW1700-5JD00-1AH0 6SW1700-0JD00-0AB2 6SW1700-1JD00-0AA4 6SW1700-1JD00-0AG4	Drive ES PCS neo V3.0 / V3.1 / V4.0 6SW1700-1JE01-0AH0 Block library for SIMATIC PCS neo for the integration of SINAMICS drives Requirement: PCS neo V3.0 or higher Type of delivery at V3.0: The SINAMICS library is a component of the SIMATIC PCS neo V3.0 product. Type of delivery at V3.1 / V4.0: Integration via the import of a SINAMICS device type file (product support). License reference for the license code and the Certificate of License for the Drive ES PCS neo SINAMICS library via OSD Languages: de, en, fr, it, es, zh, ja
Drive ES PCS 7 APL V10.0 SPx^{*)} Block library for PCS 7 for the integration of drives in APL Style (Advanced Process Library) Requirement: PCS 7 V10.0 or higher Type of delivery: DVD-ROM, OSD Languages: en, de, fr, it, es With electronic documentation <ul style="list-style-type: none"> • Single-user license incl. 1 runtime license (DVD-ROM) • Single-user license incl. 1 runtime license (OSD) • Runtime license (on paper) • Runtime license (eCoL) • Update service for single-user license • Upgrade from V8.x/V9.x to V10.0 SPx^{*)} for DVD-ROM • Upgrade from V8.x/V9.x to V10.0 SPx^{*)} for OSD 	6SW1700-3JD01-0AA0 6SW1700-3JD01-0AG0 6SW1700-5JD00-1AC0 6SW1700-5JD00-1AH0 6SW1700-0JD01-0AB2 6SW1700-1JD01-0AA4 6SW1700-1JD01-0AG4	Drive ES PCS neo V4.1 6SW1700-2JE01-0AH0 Add-On for SIMATIC PCS neo for the integration of SINAMICS drives Requirement: PCS neo V4.1 or higher License reference for the license code and the Certificate of License for the Drive ES PCS neo Add-On via OSD Languages: de, en, fr, it, es, zh, ja
		Drive ES PCS neo V5.0 6SW1750-1CE00-0YA0 Add-On for SIMATIC PCS neo for the integration of SINAMICS drives Requirement: PCS neo V5.0 or higher License reference for the license code and the Certificate of License for the Drive ES PCS neo Add-On via OSD Languages: de, en, fr, it, es, zh, ja
		Runtime license Drive ES PCS neo Add-On SINAMICS library 6SW1700-1JE00-1AH0 To execute the function blocks for a SIMATIC PCS neo Controller Language-neutral, single license for 1 installation Type of delivery: Electronic Certificate of License (OSD)

^{*)} Orders are automatically supplied with the latest Service Pack (SP).