

SIEMENS

SIMOCODE pro

SIMOCODE ES




Programming and Operating Manual

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Legal information

Warning notice system

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

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


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

Qualified Personnel

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

Proper use of Siemens products

Note the following:

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

Trademarks

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Disclaimer of Liability

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

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Introduction

1.1 Installation and use

These notes take precedence over statements made in other documents.

Please read the notes carefully because they contain important information for installation and use of the software SIMOCODE ES V15.1 for you.

1.2 Security information

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

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

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

For additional information on industrial security measures that may be implemented, please visit

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

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

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under

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

1.3 Information on data protection

Siemens observes standard data protection principles, in particular the principle of privacy by design.

For SIMOCODE ES this means:

SIMOCODE ES does not process or store any personal data, only technical function data (e.g. time stamps). If you link this data with other data (e.g. shift schedules) or store personal data on the same storage medium (e.g. hard disk), and thus establish a link to a person or persons, then you are responsible for ensuring compliance with the relevant data protection regulations.

Installation notes

2.1 General information

The installation notes contain important information that you require to install the **SIMOCODE ES V15.1** software.

Please read these notes before you start installation.

2.2 Scope of supply

This version is provided in six languages and runs under any operating system listed in section Software requirements (Page 9).

Note

Article numbers

The article numbers of version V15.1 have remained the same as those of version V15.

Package	Article number	Scope
Premium		
Floating license	3ZS1 322-6CC13-0YA5	<ul style="list-style-type: none"> • 1 setup DVD • 1 license key on USB flash drive • 1 certificate of license
License download	3ZS1 322-6CE13-0YB5	<ul style="list-style-type: none"> • 1 license key per download • 1 certificate of license by download
Software update service	3ZS1 322-6CC00-0YL5	Software update service for 1 year with automatic extension. Requires the current software version.
Standard		
Floating license	3ZS1 322-5CC13-0YA5	<ul style="list-style-type: none"> • 1 setup DVD • 1 license key on USB flash drive • 1 certificate of license
License download	3ZS1 322-5CE13-0YB5	<ul style="list-style-type: none"> • 1 license key per download • 1 certificate of license by download
Software update service	3ZS1 322-5CC00-0YL5	Software update service for 1 year with automatic extension. Requires current software version.

2.3 Hardware requirements

Note

License key

The license key of V15 can be used for version V15.1.

Note

Combo licenses

All available license keys are combo licenses without exception.

2.3 Hardware requirements

SIMOCODE ES V15.1 supports all common Windows standard PCs and SIMATIC programming devices.

Working with **SIMOCODE ES V15.1** sets minimum requirements for the hardware. In order to work efficiently with **SIMOCODE ES V15.1**, use the recommended values.

Minimum hardware requirements:

Hardware	Requirements
Processor	Intel ® Core™ i3-6100U, 2.30 GHz
RAM	4 GB
Hard disk	S-ATA with at least 8 GB of free storage space
Screen resolution	1024 x 768

Recommended PC hardware:

Hardware	Requirements
Computer	As of SIMATIC FIELD PG M5 Advanced (or comparable PC)
Processor	Intel ® Core™ i5-6440EQ (up to 3.4 GHz)
RAM	16 GB or more (32 GB for large projects)
Hard disk	SSD with at least 50 GB of free storage space
Monitor	15.6" full HD display (1920 x 1080 or higher)

Note

SIEMENS communications processor required

To use **SIMOCODE ES V15.1** with PROFIBUS (Premium version only), you also need a SIEMENS communications processor for a PROFIBUS network.

2.4 Software requirements

Runtime environment

Operating systems

SIMOCODE ES V15.1 is released for the following operating systems:

Windows 7 (64 bit)

- Windows 7 Professional SP1
- Windows 7 Enterprise SP1
- Windows 7 Ultimate SP1

Windows 10 (64 bit)

- Windows 10 Pro version 1709
- Windows 10 Pro version 1803
- Windows 10 Pro version 1809
- Windows 10 Enterprise version 1709
- Windows 10 Enterprise version 1803
- Windows 10 Enterprise version 1809
- Windows 10 Enterprise 2016 LTSC

Windows Server (64 bit)

- Windows Server 2012 R2 StdE (full installation)
- Windows Server 2016

Supported virtualization software:

- VMware vSphere Hypervisor (ESXi) 6.5
- VMware Workstation 12.5.5
- VMware Player 12.5.5

NOTICE
Encrypting File System (EFS) Never encrypt the installation folder (e.g. C:\Program Files\Siemens) with the EFS. Otherwise, important services such as the Automation License Manager will no longer function.

2.4 Software requirements

Supported security programs

The following security programs are compatible with SIMOCODE ES V15.1:

- Virus scanners:
 - Symantec Endpoint Protection 14
 - Trend Micro Office Scan 12.0
 - McAfee Endpoint Security 10.0
 - Kaspersky Anti-Virus 2018
 - Windows Defender
 - Qihoo 360 "Safe Guard 11.4" + "Virus Scanner 5.0"
- Encryption software:
 - Microsoft Bitlocker
- Host-based Intrusion Detection System:
 - McAfee Application Control 8.0

User rights

Restricted user rights are sufficient for working with SIMOCODE ES V15.1.

However, you must have administration rights to install SIMOCODE ES V15.1. All users working on this computer with SIMOCODE ES V15.1 require write authorization to the installation directory of TIA Portal V15.1.

Compatibility with STEP 7

You need to install STEP7 V15.1 to integrate SIMOCODE ES V15.1 in STEP 7.

Online documentation

For information about the immediate operating and functional context, please refer to the standard Windows Help. For more details about the structure of the documentation, see Chapter Information on the documentation (Page 17).

Installation/License key/Uninstallation

3.1 Installation

Installation of SIMOCODE ES V15.1

Note

Side-by-side installation of SIMOCODE ES V15 and SIMOCODE ES V15.1

A parallel installation of SIMOCODE ES V15 and SIMOCODE ES V15.1 is possible on your computer.

Version V15 is available on the installation DVD in addition to version V15.1.

The license key of V15 can be used for version V15.1.

Note

Installation DVD of SIMOCODE ES V15.1

The installation DVD of SIMOCODE ES V15.1 additionally includes the following software packages:

- SIMOCODE ES V15 (in directory **Support\V15**)
 - Update 2 of version V 15
-

Please close all applications (Microsoft Word, etc.) and the "Control Panel" window before starting the setup program. After installing SIMOCODE ES V15.1, you may have to restart MS Windows in order to activate all system variables.

Insert the SIMOCODE ES V15.1 DVD into the drive. A menu-prompted setup program guides you through the installation procedure for SIMOCODE ES V15.1. The setup program starts automatically when you insert the SIMOCODE ES V15.1 DVD. If you have deactivated this function on your computer, you can start setup in the MS Windows Explorer by double-clicking the "SETUP.EXE" program on the DVD. The setup guides you step by step through the installation procedure.

When setup is complete and you have (if necessary) restarted your computer, you can start SIMOCODE ES V15.1 by double-clicking on the desktop icon "TIA Portal V15.1" or, for example, under Microsoft Windows via the entry under "Start → SIEMENS Automation → TIA Portal V15.1."

NOTICE
<p>TIA Portal V15.1 registers itself in Microsoft Windows system files</p> <p>You must not move or rename any TIA Portal V15.1 files or folders using Microsoft Windows tools such as Explorer, nor should you modify any TIA Portal V15.1 data in the Windows registry.</p> <p>Making such modifications may affect program execution.</p>

3.2 License key

Before you can start working with SIMOCODE ES V15.1, you must transfer the license key (user authorization) to the computer. There are two ways of doing this:

- During installation of SIMOCODE ES V15.1, you will receive a prompt from the program setup if your computer does not have a suitable license key. You can then either have the setup program install the license key or you can install the license at a later time using the "Automation License Manager" program.
- If the license key cannot be installed during setup, continue the setup program without installing the license key. Then restart the computer and install the license key with the Start menu item "Siemens Automation\Automation License Manager".

Note

License key

The license key of V15 can be used for version V15.1.

Automation License Manager

NOTICE
Automation License Manager as a requirement for operating SIMOCODE ES V15.1
To operate SIMOCODE ES V15.1, you must make sure that the Automation License Manager is installed.

NOTICE
Installation of the Automation License Manager
The Automation License Manager prevents the authorizations and license keys from being installed on invalid drives or media, such as RAM drives, diskettes or compressed drives (e.g. DBLSPACE).
If the hard disk of a device with a removable drive bay is registered as "Exchangeable memory medium" and not as "hard disk", it will be treated like a DVD and cannot be used for installation of license keys.
In the case of compressed drives, you can install on the associated host drive.
Be sure to observe the notes on the Automation License Manager in the Readme file on the SIMOCODE ES V15.1 installation DVD under "InstData\ALM32_64\Media\ALM64".

Notes regarding fault-free operation of the license key**NOTICE****The USB flash drive must not be write-protected.**

Without write-protection of the USB flash drive, there is a danger that viruses could be transferred from the hard disk to the USB flash drive.

You should therefore run a virus check on your programming device / PC before you install/uninstall a license key.

NOTICE**Using an optimizing program**

If you use an optimizing program that enables you to move fixed blocks of memory, only use this option once you have transferred the license key from the hard disk back to the USB flash drive.

NOTICE**Cluster on the target drive**

The license key will create a cluster with a special identification on the target drive. Some inspection programs will identify this cluster as "defective."

Do not attempt to restore it.

NOTICE**Transferring the license key to the USB flash drive**

Remember to copy the license key to the USB flash drive before formatting, compressing or restoring your hard disk or before installing a new operating system.

NOTICE**Risk of losing a license key**

If a backup copy of your hard disk contains copies of license keys, there is a risk that these copies may overwrite the valid installed license keys and thus destroy them when you restore your backup data to the hard disk.

To prevent a valid license key from being overwritten by a backup copy, you are strongly advised to remove all license keys or exclude them from the backup process before you start with the backup.

Trial license

If no valid license key is installed for SIMOCODE ES V15.1, a trial license key is used. This is supplied and installed by default together with SIMOCODE ES V15.1. However, SIMOCODE ES V15.1 can only be used for 21 days with this license key. When SIMOCODE ES V15.1 is started for the first time without a valid license key, activation of the trial license key is offered.

3.3 Uninstallation

NOTICE
Uninstalling SIMOCODE ES V15.1
Uninstallation must be performed in the usual MS Windows way.
Uninstall your software package (e.g. "Siemens Totally Integrated Automation Portal V15.1") via the Windows application "Software" (e.g. under MS Windows via "Control Panel → Programs and Features").

3.4 Advanced installation notes

3.4.1 Using a wheel mouse

NOTICE
Manufacturer's driver
If you use a wheel mouse, make sure that the drivers supplied by the wheel mouse manufacturer have been installed. If they are not, you may find that the functions of the wheel mouse wheel are not always supported by SIMOCODE ES V15.1.

3.4.2 Notes concerning the use of communications cards in PCs/programming devices

CP5611 (SIMATIC NET PROFIBUS interface via PCI bus)

You require a PC or a programming device with PCI bus to use the CP5611 card. You can then address SIMATIC stations via MPI or PROFIBUS (9.6 Kbps to 12 Mbps).

If you install SIMOCODE ES V15.1 after the CP has been inserted in the computer, the plug-and-play mechanism enters the CP5611 in the Device Manager of the Control Panel\System in "Other Devices". Therefore the CP is sometimes not recognized when installing SIMOCODE ES V15.1.

In such cases, remove the CP5611 from the Device Manager after installing SIMOCODE ES V15.1 and reboot your computer.

Observe the notes in the online help under "Setting the PG/PC interface."

CP5512 (SIMATIC NET PROFIBUS interface via PC card)

A PC or a programming device with a PC card slot is required to use the CP 5512. You can then address SIMATIC stations via MPI or PROFIBUS (9.6 Kbps to 12 Mbps).

CP5711 (SIMATIC NET PROFIBUS interface via USB 2.0)

A PC or a programming device with a USB slot slot is required to use the CP5711. You can then address SIMATIC stations via MPI or PROFIBUS (9.6 Kbps to 12 Mbps).

Programming device/PC settings

To start up the plug-and-play-enabled modules (e.g. CP5512, CP5611 or CP5711), the following procedure is recommended under MS Windows:

1. Install SIMOCODE ES V15.1.
2. Close MS Windows, switch off the PC and insert the card.

Note

The CP5512 can also be plugged in during operation.

3. The communications card is automatically installed after switching on again (or plugging in the CP5512).
4. The hardware assistant appears under MS Windows. In the first dialog box that opens, select the option "No, not this time." Confirm all further dialog boxes (not with Cancel!).
5. Start TIA Portal V15.1 in the project view, and in the project navigation open the folder "Online Access."
6. Right-click the interface adapter whose settings you would like to change. Select "Properties" in the shortcut menu. In this dialog box, change the properties of module.

Note

Observe the notes in the online help under "Setting the PG/PC interface."

Note

Installing the communications drivers

When SIMOCODE ES V15.1 is installed on programming devices, the communication drivers are installed automatically and the default settings are accepted.

Interrupt and address under MS Windows 7

The settings for interrupt and address cannot be changed in MS Windows 7.

The set values can be viewed as follows: For example, under "Start → Settings → Control Panel → Administrative Tools" open Computer Management and then "System." Under "Device Manager," you can view the values of the individual modules and under "System Information → Hardware Resources," the overview of the assigned resources.

Note

Reserving an interrupt and address range for PCI components

In the BIOS of the PC, under certain conditions a specific interrupt and address range can be reserved for PCI components.

Please consult your PC or BIOS manufacturer.

3.4 Advanced installation notes

Operating networks exclusively with passive nodes (slaves)

Before you start working with your programming device/PC on a network to which only slaves (passive nodes) are currently connected, you must activate the option "Only master on the bus". Otherwise, your programming device/PC will remain inactive.

To do this, proceed as follows:

1. In the project navigation in the "Online Access" folder, right-click on the programming device/PC interface and select command "Properties" from the shortcut menu.
2. Display the properties of the module parameters used.
3. Activate the option "Only master on the bus."
4. Close the dialog box again.

Once you have finished working on this network, you should deactivate the option. In this way, you will protect the network from possible interruptions caused by plugging in the PROFIBUS/MPI cable while the interface on your programming device/PC is active.

3.4.3 S7 Teleservice

For SIMOCODE ES V15.1, the "S7-Teleservice" function is only available via MPI when used with TS adapter I or II.

Notes on usage

4.1 Upgrading a SIMOCODE pro project

If you open a project created in a previous version of SIMOCODE ES it will be upgraded with user guidance.

You must then

- close any previously opened editors (device configuration, parameters, commissioning)
- update the module description for every module. Updating the module description means upgrading devices to the latest version while keeping the current parameterization and device configuration.
 - In the device configuration, select the module for which you would like to change the module description
 - In the Inspector window select the "General" tab
 - Click on the button "Update module description"

You will also find general information about this topic in the Online Help in the information system under "Editing devices and networks → Configuring devices and networks → Configuring devices → Update module description". See Information on the documentation (Page 17).

4.2 Release notes

The information contained in the release notes is more up to date than the information in the online help and therefore takes precedence over it.

4.3 Information on the documentation

The SIMOCODE ES V15.1 documentation is available via the online help. You can open the online help from the menu item "Help → Show Help." The "information system" contains all the essential information that you need for working with the SIMOCODE ES V15.1 software.

Support Request

Using the Support Request form in Online Support you can send your query directly to our Technical Support. After describing your query in a few guided steps, you will immediately be provided with possible suggestions for solving the problem.

Support Request:	https://support.industry.siemens.com/my/ww/documents/requests (https://support.industry.siemens.com/My/ww/en/requests)
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