

SIMATIC

S7-SCL V 5.3 SP4 for S7-300/400

Notes on installation and usage

These notes should be considered more up-to-date than the information in other documents.

Read the notes carefully, because they contain important information on installing and using S7-SCL V5.3 SP4.

Version S7-SCL V5.3 SP4 is abbreviated as "S7-SCL" in the following.

To print the file, set the left and right margins to a width of 25 millimeters (1 inch) for A4 portrait size.

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1 Corrections and Changes for S7-SCL V5.3

1.1 Changes from S7-SCL V5.3 SP4

Corrections

During compilation of SCL instructions with complex indices using the "Create debug info" option, you will no longer exit S7-SCL unintentionally.

1.2 Changes from S7-SCL V5.3 SP3

Windows Vista operating system

S7-SCL can now also run under Windows Vista 32.

Start menu

When operating under Windows Vista, you can find S7-SCL in the Start menu under **Start menu > All Programs > Siemens Automation > SIMATIC STEP 7 > S7-SCL**.

1.3 Changes from S7-SCL V5.3 SP2

Project password

As of STEP 7 V5.4 it is possible to protect access to projects and libraries with a project password. This requires the installation of STEP 7 V5.4 and SIMATIC Logon V1.3 SP1, however.

If you have assigned a project password, S7-GRAPH requires it for certain actions, for example when creating and opening a source. Keep the SIMATIC Manager open in the background if you want to avoid frequent queries.

You can find more information in the help on STEP 7, in the chapter "What you should know about access protection".

Change log

As of STEP 7 V5.4 it is possible to keep a change log which keeps track of online actions such as "Loading", "Operating mode changes" or "Clear/reset", provided you have set up access protection to projects and libraries. This requires the installation of STEP 7 V5.4 and SIMATIC Logon V1.3 SP1, however.

If you have activated the change log, S7-GRAPH will ask for a comment or reason for the execution of online actions and enter it in the log.

You can find more information in the help on STEP 7, in the chapter "What you should know about the change log".

Displaying the date and time

- As of STEP 7 V5.4 there are two formats for the display of date and time of day available. You have the choice between the display in the language set in STEP 7 and the ISO 8601 standard. You can make the setting in the SIMATIC Manager, in the tab "Date and Time Of Day" of the "Customize" dialog. You can find more information in the help on STEP 7, in chapter "Display Formats for Date and Time".
- As of STEP 7 V5.4 you can display the module time in the local time of your PC/PG. You can make the setting in the SIMATIC Manager, in the tab "Date and Time of Day" of the "Customize" dialog. You can find more information in the help on STEP 7, in chapter "Displaying Module Times in the Local Time for Your PG/PC".

Corrections

- Steps are no longer skipped and results are reliably displayed when using a CPU 319-3 PN/DP in the test mode "Single step".
- Sources which were compiled for the test mode are no longer read during subprogram calls to I/O output words (e.g. PAW224).
- The program is no longer aborted when new sources are created.
- Multidimensional fields are now correctly processed during AT construct.
- Partially selected lines are now completely taken into account for indenting and outdenting.
- It is possible to undo at any time when inserting text.
- There is now a check during test mode for the availability of data blocks in the AS in the call environment.
- The program is no longer aborted when breakpoints are activated in an H-CPU in redundant mode.
- The automatic indenting and outdenting following key words has been improved.
- When outdenting with constants of the type "... -- (-3 - x) + 2" no incorrect MC7 code is created.
- Incorrect MC7 code is not created in the language construction FOR when the final value is of the type DINT.

1.4 Changes from Hotfix 2 for Service Pack 1

1. S7-SCL no longer unintentionally closes when S7-SCL sources are compiled in large projects using the SIMATIC Manager or CFC.
2. A missing character string end (') no longer leads to a block from a source not being compiled.
3. The "normal text" now appears in the configured color when printing a source.

1.5 Changes from Hotfix 1 to Service Pack 1

1. The compilation speed has been significantly improved.
2. The highlighting in the message window remains during a change between the message window of a compilation control file and the associated source.
3. The possible address area for absolute access to data blocks (also for inputs and outputs) has been extended from 0..32737 to 0..65535 .. In order to cover the larger range, a variable index can now also be of the type DINT.
4. Loops with a complex final value, e.g. `. FOR i:= Start TO End.x[j].y DO,` can now also be used for loops.
5. S7-SCL does not abort if you compile a source in which a line comment contains the key words FUNCTION, PROGRAM, FUNCTION_BLOCK, etc.

1.6 Changes from S7-SCL V5.3 SP1

You can find information on this topic in the "What's new?" section of the online help. You can open this section from the contents of the help for S7-SCL (menu command **Help > Topics**).

Notes on Installation

The installation notes contain important information that you will require to install the S7-SCL V5.3 SP4 software. Read these notes before installing the software.

2 Contents of the Consignment

This CD contains the complete package for S7-SCL-Version V5.3 including SP4,

This version comes in 5 languages and can be run on the following operating system:

- **MS Windows 2000 Professional SP3/SP4** (hereafter referred to as MS Windows 2000)
- **MS Windows XP Professional SP1/SP1a/SP2** (hereafter referred to as MS Windows XP) The MS Windows XP Home operating system is not supported.
- **MS Windows Server 2003 or MS Windows Server 2003 SP1** German/English, Standard Edition and MUI. Only in workstation mode (no client-server installations)
- **MS Windows Vista 32:** Business and Ultimate. The Vista Home operating system is not supported.

Note

The MS Windows 95, MS Windows 98SE, MS Windows Millennium and MS Windows NT 4.0 operating systems are not supported by S7-SCL V5.3 SP4.

S7-SCL Version V5.3 SP4 is supplied on the CD "S7-SCL V5.3 SP4" with a floating or upgrade license in the consignments described below:

S7-SCL, V5.3 including SP4 (Floating License)

Order number: 6ES7811-1CC05-0YA5

The package includes:

- 1 CD S7-SCL V5.3 SP4
- 1 License stick
- 1 Certificate of license

S7-SCL V5.3 including SP4 Upgrade (Floating License) (V3/V4/V5/V5.1-> V5.3)

Order number: 6ES7811-0CC05-0YE5

The package includes:

- 1 CD S7-SCL V5.3 including SP4
- 1 License stick (upgrade license)
- 1 Certificate of license
- 1 Product information

Contents of the CD S7-SCL V5.3 including SP4

- S7-SCL V5.3 including SP4
- Information about the product "What's New"
- Electronic manual "S7-SCL - Getting Started"
- Electronic manual "S7-SCL for S7-300 and S7-400"
- Automation License Manager V2.0

The manuals are available on your computer following installation.

3 Hardware Requirements

To work with the S7-SCL software, your system must meet the same requirements as for operating STEP 7 (see the Readme for STEP 7). You specifically require:

Operating system	Minimum requirements		
	Processor	RAM	Graphics
MS Windows 2000 Professional	600Mhz	256 MB *)	XGA 1024x768 16-bit color depth
MS Windows XP Professional	600Mhz	256 MB *)	XGA 1024x768 16-bit color depth
MS Windows XP Server 2003	2.4 GHz	1 GB *)	XGA 1024x768 16-bit color depth
MS Windows Vista 32 Business	1 GHz	1 GB **)	XGA 1024x768 16-bit color depth
MS Windows Vista 32 Ultimate	2 GHz	1 GB **)	XGA 1024x768 16-bit color depth
*) At least 1 GB of memory recommended			
**) At least 2 GB of memory recommended			

Note on Windows Vista:

The “Aero Glass Style” can only be used with a high-performance graphic adapter. It requires:

- DirectX9 capability
- 128 MB memory

4 Software Requirements

4.1 Operating Environment

Operating systems

S7-SCL V5.3 SP4 is a 32-bit application that runs under the following operating systems:

Operating system	Service Pack
MS Windows 2000 Professional	SP3 / SP4
MS Windows XP Professional	SP1 / SP1a / SP2
MS Windows Server 2003, (in workstation mode only, no client-server installations)	SP1 / SP2 (German/English)
MS Windows Vista 32 Business/Ultimate	

You can find information about the MS operating systems at Microsoft in the Internet.

The same basic conditions for running STEP 7 continue to apply here.

4.2 Hard Disk Space

S7-SCL V5.3 SP4 requires approx. 50 MB on your hard disk.

The disk space required by STEP 7 must also be taken into account here (see the STEP 7 Readme file).

4.3 Compatibility to STEP 7

To work with the S7-SCL software, you require at least STEP 7 V5.4.

In order to be able to use the following functions introduced with S7-SCL V5.3 including SP3, you need to have at least STEP 7 V5.4:

- Password protection
- Change log
- Selection of the date and time of day format

S7-SCL V5.3 SP3/SP4 and STEP 7 V5.4 SP3 can run under MS Vista.

4.4 Upgrading an Older Version of S7-SCL with the S7-SCL V5.3 SP4 Upgrade

Installation of the upgrade package requires a valid license for S7-SCL V3.x, V4.x, V5.

Note:

Be aware that an upgrade may require you to change your operating system because S7-SCL V5.3 SP4 can only run under Windows 2000 Professional, Windows XP Professional, Windows 2003 Server or Windows Vista. The product information contains additional information about upgrading.

The existing authorization/license must be save to floppy with the AuthorsW/Automation License Manager program before a new operating system is installed.

5 Software Installation

5.1 Installing S7-SCL V5.3 SP4

When installing S7-SCL V5.3 SP4 you can overwrite existing installations of S7-SCL. Older versions do not need to be uninstalled.

Before starting the Setup program, close all applications (such as MS Word, etc.) and the "Control Panel" window.

Insert the S7-SCL-CD in the drive. The Setup program guides you through the installation. The installation program starts automatically when you insert the S7-SCL CD. If you have disabled the automatic start function for your computer, find the program using the Windows Explorer and start it manually by double-clicking on it in the root directory of the CD.

Note

STEP 7 and S7-SCL register themselves in MS Windows 2000/XP/Server 2003/Vista system files. You cannot move or rename STEP 7 or S7-SCL files or folders using Microsoft Windows utilities such as the Explorer or modify STEP 7 or S7-SCL data in the Microsoft Windows registry. After such modifications, it is possible that the program will no longer run properly.

5.2 License Key for S7-SCL V5.3 SP4

Before you can start working with S7-SCL, you must transfer the license key from the license stick to the computer. There are two ways of doing this:

- While you are installing STEP 7, the Setup program displays a message if there is no suitable license key installed on your computer. You can then decide whether you want the license key to be installed by the Setup program or whether you want to install the license key manually 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 your computer and install the license key using start menu command Simatic\License Management\Automation License Manager.

Note

The license key can be installed on all local drives.

The Automation License Manager prevents installation of license keys on impermissible drives such as RAM drives, floppies or compressed drives (e.g. DBLSPACE). If a hard drive of a device is registered as "removable media" and not as a normal "hard disk", it will be treated as a CD drive on which license keys cannot be installed.

Select the respective host drive for compressed drives.

Read the notes in the README.WRI file about the Automation License Manager on the STEP 7 Installation CD under "Automation License Manager\disk1\".

Hidden files are stored in the folder "<Drive where license key is installed>\AX NF ZZ". These files and the folder must not be deleted, moved, or copied. They contain data required for the licensing of your software!

If you do not adhere to these guidelines, the license key may be irretrievably lost.

Note about using license keys correctly

- The license stick must not be read-only. Since the license stick must be used without write protection, there is a danger that a virus could be transferred from the hard disk to the diskette. You should therefore run a virus check on your PC or programming device every time you install or remove a license key.
- If you use a defragmentation program, which enables you to move fixed blocks of memory, only use this option once you have moved the license key from the hard disk back to the license stick.
- When you install a license key, a cluster appears on the target drive marked with a special character. Some testing programs may show this cluster as "defective." Do not attempt to "repair" the cluster.

- Do not forget to transfer the license key to the license stick before formatting, compressing, or restoring your hard disk or before installing a new operating system.
- If a backup copy of your hard disk contains copies of license keys, there is a danger that these copies may overwrite the valid installed license keys when you restore your backup data to the hard disk, thereby destroying the valid license keys. To prevent a valid license key from being overwritten by a backup copy, you must remove all license keys before you make a backup copy or exclude the license keys from the backup.

Using the trial license

If there is no valid License Key installed for S7-SCL V5.3, SP4 a trial license key, which is supplied and installed with S7-SCL is used. This license key allows you to run S7-SCL for only fourteen days. The trial license is activated, following acknowledgment, at the first start of S7-SCL without a valid license key.

5.3 Removing S7-SCL V5.3 SP4

Note

Software products must be removed according to Microsoft Windows conventions, otherwise they cannot be uninstalled.

Use the removal function of the Windows operating system (in the taskbar under **Start > Settings > Control Panel > Add/Remove Programs**) to remove your software package (for example, "SIMATIC S7-SCL V5.3 including SP2").

You can also run the S7-SCL setup program to remove the program.

Release Notes

These notes should be considered more up-to-date than the information in manuals and online helps.

6 Note on Compatibility with DIN EN 61131

S7-SCL has complied with the PLCopen Basis Level of the structured text DIN EN 61131-3 (formerly IEC 1131-3) standard since version 5.0.

If an ST program exists, you can now either import it into the STEP 7 database with SIMATIC Manager as an ASCII file or in the S7-SCL editor using copy and paste.

Important settings and requirements

The following settings are important in order to create programs that conform to standards:

- Select the English mnemonic for the project in SIMATIC Manager under **Options > Customize > Language**.
- Deactivate the option "Permit nested comments" in S7-SCL under **Options > Customize > Compiler**.
- Deactivate the option "Create block numbers automatically" under **Options > Customize > Create Block**.
- The lines END_VAR, END_CONST, END_LABEL, FUNCTION_BLOCK name, FUNCTION name etc. are not allowed to be separated with a semi-colon. A semi-colon is interpreted as an "empty" statement so that all following structures will be evaluated as statements.

7 Using Texts in Foreign Languages

As of S7-SCL V5.3 SP1, you can enter texts in foreign languages that do not correspond to the STEP 7 language specified.

In this way, it is possible enter Chinese source texts in STEP 7 with S7-SCL with English as the specified language on a Chinese Windows STEP 7 with S7-SCL. Please see the STEP 7 online help for notes about changing languages.

Rules:

- S7-SCL 5.3 SP1 allows foreign characters in the following areas of the sources:
- In global symbols, which are contained in the STEP 7 symbol table.
- In STRING constants, e.g. for `TITLE = ' ... '`, `AUTHOR : ' ... '`, `FAMILY : ' ... '`.
- The length of the STRING constants is generally limited to 254 bytes. The length is 8 bytes for the AUTHOR and FAMILY attributes.
- In user-defined attributes.
- In comments.

The following elements can only contain English characters (ASCII characters 0x2a - 0x7f):

- IEC string functions
- Block parameter and local symbols
- Structures that define the S7-SCL language

Applicable character sets:

The following foreign language character sets under the MUI version of the released Windows operating system have been tested:

- Japanese
- Chinese (Simplified)
- Korean
- Russian
- Greek

Additional languages are possible; universal application cannot be guaranteed, however.

Note:

The option "Upper/Lower case" is offered in Find/Replace dialogs, even if the foreign language used does not know the difference (e.g. ideographic languages such as Japanese, Chinese).

8 Notes on Programming and Operation

General notes

The general notes on the STEP 7 Standard package V5.3 also fully apply to S7-SCL. This section only contains additional information that is either not in the documentation or that is only valid for this particular release of the software.

Copying S7-SCL programs containing S7-SCL sources

If the S7-SCL add-on package is not installed on a PG/PC and use STEP 7 (e.g. SIMATIC Manager) to copy, cut or paste programs, the S7 SCL source files contained within them are lost.

User rights

To be able to work with S7-SCL under MS Windows 2000/2003/XP, you must have at least logged on as the user (no guest log in). You need administrator rights to be able to install the S7-SCL Software.

Limits of internal compiler lists

The internal compiler symbol table may contain up to approximately 65500 symbols. This limit is only reached when extensive interfaces are read in during the compilation of a block.

Reaction of the compiler to errors in the declaration section

If the declaration section contains errors that could cause an "undefined response" from the compiler, the statement section is not compiled. The statement section can only be compiled when the declaration section is error-free.

Printing

- When printing project documentation with DocPro, the layout "L11PC_A" is not permitted for S7-SCL.
- You will get the best printing results with "CourierNew" font, font size 8 or higher.

Creating S7 reference data

The following restrictions apply when working with S7 reference data:

When generating cross-reference list or similar lists in version 5.3, blocks must be recompiled and, if they already exist, must be overwritten. This procedure must not be aborted.

In the cross-reference list, the access type (read = R or write = W) for input and output parameters must be shown as unknown (unknown = ?).

Access to variables of a DB is always displayed in the cross-reference list in absolute form.

Compiler options

Compiler options in a source or a compile control file have priority over settings which are entered into the S7-SCL editor in the "Compiler" tab, as well as jobs from outside (e.g. "Generate reference data" as a STEP 7 job).

System attributes for blocks

System attributes are not checked for correctness. Please make sure that the notation is correct.

Structures

Structures may be nested up to a depth of 6 steps.

Names of global addresses such as timer, counter, memory, inputs, etc. are not allowed to be used as names of structure elements.

Error message "The block could not be saved"

An FC, FB or DB must be defined in the source prior to its use. This may otherwise lead to the error message as mentioned above.

SEL and MUX functions

For the functions SEL and MUX whole structures, fields, parameter data types and S5Time are not allowed to be used as parameters.

Symbol table

The connection with the symbol table is made when a source is opened. An additional symbol table is only taken into consideration after closing and reopening the source.

Copying sources and blocks

When copying a source or a block, the connection between them gets lost. For testing / debugging you need to reload and compile the source or the block again.

MIN / MAX / MUX input parameters

The input parameters of the MIN / MAX / MUX functions have to start with the lowest input parameter (IN0 for MUX, IN1 for MIN / MAX) and increase without gaps.

Functions INT / DINT_TO_BCD

Contrary to the description in the manual, the INT / DINT_TO_BCD functions do not influence the OK flag.

Access to variables of the type S5TIME with BCD_TO_INT and INT_TO_BCD

Variables of the type S5TIME can be read with the function BCD_TO_INT or written with INT_TO_BCD.

Use AT construct to assign a view of the type WORD to the variable of the type S5TIME.

Example :

```
VAR

    TimeS5T : S5time;

    TimeWord AT TimeS5T : WORD;

    TimeInt : INT;

END_VAR

....

....

TimeS5T := S_ODT(T_NO:= T10, S:=TRUE, ....);

TimeInt := BCD_TO_INT(TimeWord);

....
```

9 Notes on the S7-SCL Debugger

Points to note when debugging

Make sure that the connection between the programming device and the CPU remains stable during debugging (status and breakpoint). Disturbances on the connection may mean that the application must be restarted.

You require a mouse for the SCL debugging functions. If your system does not have a mouse, you can install a keyboard mouse.

Maximum number of testable components/instances reached

If you compile a source file with the option "Generate debug information" and the warning "Maximum number of testable components / instances reached" is displayed, this part of the source file cannot be monitored or executed in single step.

Fonts in the "Errors and Warnings" window

The "Errors and Warnings" window takes on the settings for the font size and type from the working window. You can select colors as desired.

Source changes

After changing a source you need to save, compile and load the block that needs to be tested, before the test function can be enabled.

10 Notes on the Documentation

Online documentation

The HTML-based online documentation for S7-SCL contains all the information you require when working with S7-SCL. You can open the online documentation with the menu command **Help > Contents...**

Using help

You will find detailed information on using help in the section of the online documentation entitled "Working with the Online Documentation".

Electronic manual

You also have the documentation available as an electronic manual. The content of the electronic manual is identical to that of the online documentation.

This gives you the option of obtaining information using only the online help or of printing out some or all of the chapters of the electronic manual for reference.

The manual is entered in the Windows Start menu and you can display and print it with the Acrobat Reader.

You can open the electronic manuals with the Start menu command **START > SIMATIC > Documentation**.

11 Software with OSS Components

To resellers: This information, the licensing conditions and supplied CD must be passed on to the buyer to avoid violation of the license by the new and original buyer.

Copyrights

Name	Copyright Owner or License
STEP 7	Copyright © 2003-2007, Siemens AG, all rights reserved
S7-SCL	Copyright © 1995-2007, Siemens AG, all rights reserved
Automation License Manager	Copyright © 2007, Siemens AG, all rights reserved
Objective Toolkit DLL	Copyright © 1998 Stingray Software Inc.
Yacc++	Copyright © 1990-1994, Compiler Resources, Inc.
StopCopy	Copyright © 1999, 2001 BBI Computer Systems, Inc

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1. Supply of Software to Licensee and Granting of Rights to use the Software

1.1 These General License Conditions shall exclusively apply to the delivery of Software for Automation and Drives to the Licensee. General terms and conditions of the Licensee shall apply only where expressly accepted in writing by us. The scope of delivery of the Software shall be determined by the congruent mutual written declarations of both parties. We shall grant the Licensee rights to use the software specified in the Confirmation of Order or, if the Licensee does not receive a Confirmation of Order, the software specified in the certificate of license or that specified in the Software Product Sheet, if the Licensee is instead submitted a Software Product Sheet (hereinafter referred to as "SW"). The certificate of license and the Software Product Sheet shall be collectively referred to as "CoL" hereinafter. The Licensee shall be submitted the CoL when the SW is supplied or in conjunction with the delivery bill. The way in which the SW is supplied is also derived directly from the Confirmation of Order or from the SW purchase order number contained in the Confirmation of Order, in conjunction with the associated order data of our catalog valid at the time of the Confirmation of Order (hereinafter collectively referred to as "Order Data"), or from the CoL. If the Licensee does not receive a data medium, it shall be authorized to copy the SW already available to it to the extent necessary to exercise the rights to use the SW granted to it. The aforesaid shall apply, mutatis mutandis, to electronic supply of the software (downloading). Where reference is made to the Order Data or the CoL in these General License Conditions, the reference to the CoL is of significance if the Licensee has not received a Confirmation of Order. In any case, the data contained in the Order Data is also contained in the CoL.

1.2 The Documentation relating to the SW (hereinafter referred to as "Documentation") shall be purchased separately, unless either the Order Data or CoL contain a stipulation stating that it belongs to the scope of delivery. If the Licensee is authorized to copy the SW in accordance with Clause 1.1, this shall also apply to the Documentation provided that it is included in the scope of delivery.

1.3 In the event that we submit a License Key to the Licensee, which unlocks the SW (hereinafter referred to as "License Key"), this License Key must also be installed.

1.4 The rights granted to the Licensee with respect to the SW are based on the License Type (see Section 2) and the Software Type (see Section 3). The license and Software Types are detailed in the Order Data or CoL. If the SW is supplied electronically or if copying rights are granted for it, the rights and duties specified in these General License Conditions shall apply to the legitimately generated copies.

1.5 If the Licensee is legitimately in possession of a previous SW version/release (hereinafter referred to as "Previous Version"), the Licensee shall be authorized to exercise the rights to use the SW granted to it either with respect to the SW or - if this is intended from a technical point of view - to the Previous Version, at its own discretion (downgrading). If the SW is an Upgrade or PowerPack in accordance with Section 4, Section 4 shall apply additionally.

1.6 In case the Licensee obtains only the data media but no license as per the Order Data or the CoL, any use of the SW by the Licensee is subject to the acquisition of a license according to Section 2. Up to the acquisition of the license, the Licensee is not entitled to supply the SW to third parties.

1.7 Insofar as the SW contains Open Source Software (hereinafter referred to as "OSS") the OSS is listed in the readme file of the SW. The Licensee is entitled to use the OSS in accordance with the respective license conditions of the OSS. The license conditions are provided on the same data carrier as the SW. The license conditions of the respective OSS shall prevail these General License Conditions with respect to the OSS. If the license conditions of the OSS require the distribution of the source code of such OSS we shall provide such source code on request against payment of the shipping and handling charges.

1.8 The SW may be licensed software, i.e. software which has not been developed by us itself but which has been licensed to us by a third party (hereinafter referred to as the "Licensor"), e.g. Microsoft Licensing Inc. In the event that the Licensee is then forwarded the terms and conditions stipulated by the relevant Licensor together with the SW, such terms and conditions shall apply with respect to the Licensor's liability vis-à-vis the Licensee. Our own liability vis-à-vis the Licensee shall be governed by these General License Conditions.

2. License Type

Depending on the License Type, the Licensee shall be granted the following rights to the SW:

2.1 Single License (One Off License, Copy License)

The term "One Off License" or "Copy License" which may be used in the Software Product Sheet corresponds to the term "Single License". The following regulation shall apply to the full scope of the One Off License / Copy License. The Licensee shall be granted the non-exclusive right, transferable in accordance with Clause 5.3 and valid for an unlimited period of time, to install the SW on one (1) hardware device and to utilize the SW thus installed in the manner specified in the Order Data or CoL (see "Type of Use").

2.2 Floating License

The Licensee shall be granted the non-exclusive right, transferable in accordance with Clause 5.3 and valid for an unlimited period of time, to install the SW on any desired number of the Licensee's hardware devices. The number of persons permitted to utilize the SW at the same time ("Users") can be derived from the Order Data or CoL (see "Type of Use").

2.3 Rental License

The Licensee shall be granted the non-exclusive right, transferable in accordance with Clause 5.3 and limited in time as stipulated in the Order Data or CoL (see "Type of Use"), to install the SW on one (1) hardware device and to use it. If the period of use is specified in hours, the usage decisive for the calculation of the time limit commences with the software start-up and finishes with its shut-down. If the period of usage is specified in days, weeks or months, the specified period, which commences in conjunction with the first SW start-up, shall apply independently of the actual time of usage.

2.4 Trial License

The Licensee shall be granted the non-exclusive and non-transferable right to install the SW on one (1) hardware device and to use it for validation purposes in the manner specified in the Order Data or CoL (see "Type of Use"). The period of usage is limited to 14 days and commences with the SW start-up, unless a different period of usage is specified in the Order Data or CoL.

2.5 Factory License

The Licensee shall be granted the non-exclusive right, transferable in accordance with Clause 5.3 and valid for an unlimited period of time, to install and use the SW in one (1) operating site of the Licensee. The number of devices on which the software can be installed and used at any one time can be derived from the Order Data or CoL (see "Type of Use"). An operating site is defined by its address. Operating sites with varying addresses are considered different operating sites in terms of these General License Conditions, unless otherwise agreed in the Order Data or CoL. The Licensee shall be granted the right to permanently use the software in another operating site, if he removes the software beforehand from all devices of the previous operating site and completely ceases to use the software at the previous operating site.

3. Software Type

If the Software Type is not specified in the Order Data or CoL, the rights specified in Clause 3.2 (Runtime Software) shall apply to the SW.

3.1 Engineering Software (hereinafter referred to as "E-SW")

In the event that the Licensee uses E-SW to generate its own programs or data containing parts of the E-SW, the Licensee shall have the right, without having to pay any license fee, to copy and to use these parts of the E-SW as a part of its own programs or data, or to supply them to third parties for use. In the event that such parts are supplied to third parties for use, these parties shall be bound in writing to comply with stipulations corresponding to those in Clauses 5.1 and 5.2 with respect to the above parts of the E-SW.

3.2 Runtime Software (hereinafter referred to as "R-SW")

If the Licensee incorporates R-SW or any parts thereof into its own programs or data, it shall purchase a license with respect to the R-SW each time it installs or copies - depending on what is done first - its own programs or data containing R-SW or parts thereof, in accordance with the relevant intended Type of Use and on the basis of the Siemens catalog valid at that time. In the event that the Licensee supplies the specified programs or data to third parties for their use, these parties shall be bound in writing to adhere to stipulations corresponding to those in Section 5, with respect to the R-SW parts contained therein. The aforesaid shall not affect the Licensee's obligation to purchase a license for the R-SW if the R-SW original is copied. If the R-SW contains tools for parameterization/configuration and extended rights have been granted in this regard, this will be detailed in the readme file of the R-SW.

4. Upgrade and PowerPack

If it is apparent from the Order Data or CoL, e.g. by the addition "PowerPack" or "Upgrade" after the SW product name, that the SW is an upgrade for another software item (hereinafter referred to as "Source License"), the Licensee shall also have the rights to use the SW granted to it with respect to the Source License as

soon as this has been upgraded with the Upgrade/PowerPack. The rights originally granted to the Licensee to use the Source License end in conjunction with the upgrade measure. However, the Licensee is entitled to undo the upgrading (downgrading) - if this is intended from a technical point of view - and to exercise the rights to use the SW granted to it with respect to the Source Version in accordance with Clause 1.5.

5. Further Rights and Duties of the Licensee

5.1 Unless a stipulation to the contrary relating to a specific number of copies is contained on the data medium or in the readme file of the SW, the Licensee may generate an appropriate number of copies of every item of SW which it is authorized to use in accordance with these General License Conditions, where such copies shall be used exclusively for data backup purposes. Furthermore the Licensee may only copy the SW if and insofar as it has been granted copying rights by us in writing.

5.2 The Licensee shall not be entitled to modify, decompile or reverse engineer the SW. Nor may it extract any individual parts unless this is permitted by mandatory copyright law. Furthermore, the Licensee shall not be entitled to remove any alphanumeric identifiers, trademarks or copyright notices from the SW or the data medium and, insofar as it is entitled to make copies of the SW, shall copy them without alteration. The aforementioned regulation shall apply accordingly to the Documentation supplied in accordance with Section 1.

5.3 The Licensee shall be entitled to transfer the right to use the SW granted to it to a third party, provided that it concludes a written agreement with the third party in conformance with all of the conditions contained in this Section 5 and on the proviso that it does not retain any copies of the SW. If the Licensee has received a License Key for the SW, this key shall be supplied to the third party together with the SW. Furthermore, the third party shall be submitted the CoL together with these General License Conditions. The Licensee shall submit the CoL received for the SW to us at any time, if requested.

5.4 If the SW is a PowerPack or an Upgrade, the Licensee shall keep the certificate of license or Software Product Sheet of the Source License and submit it to us at any time, if requested, together with the CoL for the SW. In the event that the Licensee transfers its right to use the PowerPack SW or Upgrade SW in accordance with Clause 5.3, it shall also submit the certificate of license or Software Product Sheet of the Source License to the third party.

5.5 If the Licensee receives a data medium which, in addition to the SW, contains further software products which are released for use, then it shall have the right to use these released software products exclusively for validation purposes, for a limited period of time and free of charge. The period of use shall be limited to 14 days, commencing with the first start-up of the relevant software program unless a different period is specified e.g. in the readme file of the relevant software product. These software products supplied exclusively for validation purposes shall be governed, mutatis mutandis, by the stipulations contained in these General License Conditions. The Licensee shall not be authorized to pass on these software products separately, i.e. without the SW, to a third party.

In other respects, the terms of the purchase contract shall apply, unless an explicit agreement is subsequently made for the open source software.