SIEMENS

SIMATIC

Readme

Readme

11/2018

Legal information

Warning notice system

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

> ### ⚠ DANGER
>
> indicates that death or severe personal injury **will** result if proper precautions are not taken.

> ### ⚠ WARNING
>
> indicates that death or severe personal injury **may** result if proper precautions are not taken.

> ### ⚠ CAUTION
>
> indicates that minor personal injury can result if proper precautions are not taken.

> ### NOTICE
>
> indicates that property damage can result if proper precautions are not taken.

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

Qualified Personnel

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

Proper use of Siemens products

Note the following:

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

Trademarks

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

Disclaimer of Liability

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

Table of contents

Validity

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Validity

This update is valid for the following products:

- STEP 7 Basic V15
- STEP 7 Professional V15
- WinCC Basic V15
- WinCC Comfort V15
- WinCC Advanced V15
- WinCC Professional V15
- TIA Portal Openness V15

Note

If you modify your system after installing the update with the product DVD, you will have to perform the update again.

Windows 7 and Windows Server 2008 R2: Invalid certificate validation

The new certificates used for signing may possibly not be validated on the Windows 7 and Windows Server 2008 R2 operating systems.

If you do not have the possibility to update the certificate store online, the signature of the product files is displayed as invalid. In this case, update the root certificates provided by Microsoft on the offline systems. To do so, follow the instructions in FAQ 109748887 (https://support.industry.siemens.com/cs/ww/en/view/109748887).

Note for installation under Windows 7

The TIA Portal can only be run on Windows systems that support the secure hash algorithm "SHA-2". "SHA-2" is only supported under Windows 7 once a security update has been installed (KB 3033929). Therefore, make sure that the latest Windows security updates are installed on your system.

Improvements in STEP 7

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2.1 Improvements in Update 4

Update 4 contains the following improvements and changes:

Working with the TIA Portal

Stability when working with the TIA Portal has been improved, partly based on the feedback from returned crash reports.

Instruction "GetSymbolPath" (S7-1200/S7-1500)

The use of the instruction "GetSymbolPath" can in rare cases lead to an area length error and STOP of the CPU. This behavior was corrected in V15 update 4.

Tags of the data type "REF_TO Array" (S7-1500)

Accesses to tags of the data type "REF_TO Array" returns the false result under certain circumstances when accessed with a variable index (e.g. myRefArray^[i]).

Loading ProDiag blocks

After a block which uses system instructions had been loaded, in rare cases it was necessary to also load the unchanged ProDiag block to the device when loaded again. This behavior was corrected in V15 update 4.

Tag of the data type "REF_TO Struct"

If you declared a tag of the data type "REF_TO Struct", you were informed by a message in the block interface that this data type is not permitted, but during compilation of the block no syntax error message was generated. This behavior has been corrected. We recommend using the data type "REF_TO <PLC-Data type>" in this case.

ProDiag

After changing the assignment of an instance data block with supervisions to a ProDiag function block, both blocks are now always loaded to the device, so that a later upload from the device does not result in inconsistencies.

"RUNTIME" instruction (SCL/STL S7-1200/S7-1500)

The "Mem" parameter of the "RUNTIME" instruction has the data type "LREAL" and can only be used with a tag of this data type. Implicit conversion is not possible here. This rule will now undergo a more precise syntax check. If you have provided the "Mem" parameter of the "RUNTIME" instruction with an invalid data type in your program, an error will be reported during compiling.

Transferring projects with project protection

If a project for which project protection has been set up via user administration is to be transferred to another user, create a project archive and use this for data exchange. By archiving, you ensure that the project protection cannot be bypassed.

Importing IEC timers (S7-1200/S7-1500)

IEC timers contain read-only parameters, e.g. ET (current time value). In older versions of the TIA Portal, the start values of these read-only parameters were overwritten in some cases when external source files were imported. This behavior has been corrected with V15.0: Start values for read-only parameters are now ignored when source files are imported. Instead, the default values of the data type are used. Therefore, please check your program after an import.

2.2 Improvements in Update 3

Update 3 contains the following improvements and changes:

Working with the TIA Portal

Stability when working with the TIA Portal has been improved, partly based on the feedback from returned crash reports.

2.3 Improvements in Update 2

Update 2 contains the following improvements and changes:

Working with the TIA Portal

Stability when working with the TIA Portal has been improved, partly based on the feedback from returned crash reports.

Non-typified notation for time constants

In V15 the program editor does not accept the non-typified input of time constants. Time constants must always be entered in typified notation (for example, t#500ms, t#0.5s).

This behavior is corrected with V15 Update 2. Non-typified constants (such as 500ms, 0.5s) are now again accepted for the following data types: Date, TOD, LTOD, S5Time, Time, LTime, LDT.

Zones for 2D kinematics (S7-1500T)

When using the motion control instructions "MC_DefineWorkspaceZone" and "MC_DefineKinematicsZone" to define zones for 2D kinematics and 2D kinematics with orientation, only the value 0.0 is permitted at the "Frame.y", "Frame.a", and "Frame.c" parameters with the firmware version V2.5. The ErrorID 16#80C4 (invalid frame) is displayed for values other than 0.0.

This behavior is corrected with firmware version V2.5.2.

Jogging or positioning the orientation axis A4 with the Kinematics control panel (S7-1500T)

With firmware version V2.5, you can only position orientation axis A4 in the world coordinate system (WCS) with the operating mode "Jog to target position" on the Kinematics control panel.

This behavior is corrected with firmware version V2.5.2.

Extended Motion Control Resources (S7-1500T)

If you use multiple kinematics technology objects and multiple cam technology objects with firmware version V2.5, you cannot completely assign the "Extended Motion Control Resources".

This behavior is corrected with firmware version V2.5.2.

Restarting a kinematics technology object (S7-1500T)

Using "MC_Reset" jobs with the parameter "Restart" = TRUE at the kinematics technology object can later result in the kinematics technology object refusing all commands with ErrorID 16#8001 with firmware version V2.5.

This behavior is corrected with firmware version V2.5.2.

2.4 Improvements in Update 1

Update 1 contains the following improvements and changes:

Working with the TIA Portal

Stability when working with the TIA Portal has been improved, partly based on the feedback from returned crash reports.

Negative non-typed constants in LAD und FBD (S7-1200/1500)

Non-typed constants do not contain an explicit type specification. They do not receive their data type until the first arithmetic or logical operation in which they are used. For example, in a MOVE instruction, a non-typed constant that is used as an input is always interpreted with the data type of the target tag.

In versions before V15, the data types of non-typed constants were not updated correctly in rare cases after the data type of the arithmetic or logic operation had changed.

This behavior has been corrected in V15, so that constants are always interpreted with the data type of the link.

With this correction, the semantics of the program can change under special circumstances, especially if you use constants with negative values.

If you use negative non-typed constants in your program, check it after upgrading and compile it if necessary.

To define the exact data type of a constant, use the typed notation, for example INT#-1.

Using cross-references with global constants

Displaying cross-reference information in V15 can result in crashes or display problems if global constants are used as indexes or start values in ARRAYs in the program,

This was remedied in V15 Update 1. In order for the error correction to take effect, you should regenerate the cross-reference information with V15 Update 1.

To do this, follow these steps:

1. Select the "Settings" command in the "Options" menu.

2. Select the category "General > Cross-references".

3. Click the "Recreate the cross-reference information" button.

Note when activating breakpoints (S7-1500 as of FW V2.5)

When activating breakpoints, a message appears (entitled: "Breakpoint (0604:000427)") stating that the output values for the connected output modules are being kept in their current state and the CPU is no longer reacting to input values of input modules.

If the above-mentioned message is closed with "No", no breakpoint can be activated during the online connection.

This behavior is corrected with V15 Update 1.

Copying tags of the "ARRAY of STRUCT" data type

In rare cases when copying tags of the "ARRAY of STRUCT" data type, comments were not transferred correctly in V15. This was corrected in V15 Update 1.

Upgrading programs using IEC timers

After an upgrade to V15, some programs containing IEC timers output an incorrect error message "The data type IEC timer no longer exists".

This behavior is corrected with V15 Update 1.

Moving a rotary kinematics axis using the Kinematics control panel (S7-1500T)

With V15 you cannot move a rotary kinematics axis in the machine coordinate system (MCS) using the Kinematics control panel with the operating mode "Jog" if the "Modulo" setting is activated for this axis.

This behavior is corrected with V15 Update 1.

Improvements in WinCC

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3.1 Engineering system

3.1.1 Improvements in Update 3

Update 3 contains the following improvements and changes:

Undoing and redoing actions

The behavior when actions are undone and redone has been improved.

Compiling and downloading

The performance when compiling graphic lists with a large number of svg graphics has been improved.

Compilation of projects with an OPC UA connection has been improved

Multi-user projects

The routines for saving multiuser projects have been optimized.

3.1.2 Improvements in Update 2

TCSB V3.1 OPC UA server

If you use the latest version of the TCSB V3.1 OPC UA server, you cannot select the address of an OPC UA tag in the tag browser. You must enter the address manually.

Each node in the address space of an OPC UA server is uniquely identified by its NodeId. The following properties of a node ID are used to determine the address of the HMI tag:

- NamespaceIndex: The NamespaceUri results from the NamespaceIndex (0, 1, ..) using the NamespaceTable.
- IdType: The NodeIdType (i, s, g, b) results from the IdType (Numeric, String, Guid, Opaque).
- Identifier

Address: "ns=" + NamespaceUri + ';' + NodeIdType + '=' + Identifier;

Examples

- ns=http://opcfoundation.org/UA/;i=2262
- ns=TCS;s=TCS:[project.Station 1.101]DP,DataPoint

Display in Runtime

The display of objects on several levels has been improved for Runtime Professional.

Multi-user projects

The routines for multi-user project compilation have been improved for Runtime Professional.

3.2 Panels

3.2.1 Improvements in Update 3

Update 3 contains the following improvements and changes:

Downloading HMI device images

HMI device images that are not contained in the scope of delivery can be downloaded via the Siemens Industry Online Support with entry ID 109746530 (https:// support.industry.siemens.com/cs/ww/de/view/109746530).

3.2.2 Improvements in Update 2

Update 2 contains the following improvements and changes:

Loss of license for Runtime options

The sporadically occurring loss of the license for the Runtime options "Audit" and "ProDiag" is prevented for the following devices:

- KP700 Comfort
- KP900 Comfort
- KP1200 Comfort
- KP1500 Comfort
- TP700 Comfort
- TP900 Comfort
- TP1200 Comfort
- TP1500 Comfort
- TP1900 Comfort
- TP2200 Comfort
- TP700 Comfort Outdoor
- TP1500 Comfort Outdoor

Improvement of the brightness control

The brightness control of the display has been enhanced for the following devices:

- KP1500 Comfort
- TP1500 Comfort
- TP1500 Comfort PRO
- TP1900 Comfort
- TP1900 Comfort PRO
- TP2200 Comfort
- TP2200 Comfort PRO

3.2.3 Improvements in Update 1

Update 1 contains the following improvements and changes:

Screens and screen objects in Runtime

In the trend view, the behavior of the buttons in the toolbar has been improved.

3.3 Runtime Advanced

3.3.1 Improvements in Update 1

Update 1 contains the following improvements and changes:

Screens and screen objects in Runtime

For the trend view, the behavior of the buttons in the toolbar has been improved.

3.4 Runtime Professional

3.4.1 Improvements in Update 4

Update 4 contains the following improvements and changes:

Projects in Runtime after Windows 10 update

You have installed Windows 10 version 1709 on a PC with WinCC Professional V15 and a PC with WinCC Professional RT V15. You have performed a Windows 10 update to version 1803 on the Runtime PC. After the Windows 10 update, it may no longer be possible in Runtime to manually open a project loaded from the engineering system PC.

Remedy: Set the start type of the service for the WinCC SQL instance manually to "Automatic (Delayed Start)" and restart the system.

Automatic login with WebUX

If the automatic login is no longer desired, you must delete the browser history of the respective browser.

3.4.2   Improvements in Update 3

Update 3 contains the following improvements and changes:

Display in Runtime

Screen change in Runtime has been optimized for dynamized object groups.

The display in independent screen windows has been optimized.

The functioning of the following objects has been improved:

- PLC code viewer
- ProDiag overview
- Criteria analysis view

Redundancy

The synchronization of alarms after a server failure has been improved.

3.4.3   Improvements in Update 2

Update 2 contains the following improvements and changes:

Display in Runtime

Picture change in Runtime has been improved

- For pictures with numerous symbolic I/O fields
- For multiple, rapid, consecutive picture changes

The representation of graphics in individualized controls has been improved.

Faceplates

The dynamization of the interface properties of a faceplate with user-defined functions has been improved.

System functions

The method of operation of the system function "TriggerOperatorEvent" has been improved with regard to a tag prefix for screen windows.

WebNavigator

The WebNavigator has been improved with regard to using faceplates.

The routines for printing reports have been improved.

3.4.4 Improvements in Update 1

Update 1 contains the following improvements and changes:

Touch operation

Touch operation of WinCC Runtime Professional has been improved.

Display in Runtime

In Runtime, the display of picture objects on different levels has been improved.

Picture change in Runtime

Picture change times have been optimized.

SetOperationLock system function

The mode of operation of the SetOperationLock system function has been improved in terms of use with nested picture windows.

PLC Code Viewer

The PlcCodeViewerExternalClientAccess interface has been optimized in respect of parallel access.

S7-DOS V9

Do not deactivate the IPv4 protocol in the Ethernet properties for the network adapter or the SIMATIC Ethernet CPs if you want to use all of the functions of the new S7-DOS V9.

Improvements in Openness

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4.1 Improvements in Update 1

Update 1 contains the following improvements and changes:

Importing blocks

STL, LAD, and FBD blocks are correctly imported, even if the attribute "SliceAccessModifier" is set.