SIEMENS

SIMATIC

Readme

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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

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 V16
- STEP 7 Professional V16
- WinCC Basic V16
- WinCC Comfort V16
- WinCC Advanced V16
- WinCC Professional V16
- TIA Portal Openness V16

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

<div style="text-align: right; font-size: 3em;">2</div>

2.1   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.

Software units: Monitoring operands with ProDiag (S7-1500)

In the ProDiag overview window of a software unit, you are not permitted to define monitorings for tags that were declared in another software unit. In Update 1, a more precise syntax check is used to check for conformity with this rule. If you have created monitorings of tags in another software unit in your program, a compilation error message is now always generated.

Note for users of the patch for telecontrol configurations for DNP3 and IEC

Before Version V16.0.0.1 (or higher version of V16) can be installed, the patched DLL must be replaced with the original DLL of V16.0.0.0 again.

This correction is also included in Update 1 (and higher).

Description of the OPC UA server of S7-1200 CPUs in the information system of TIA Portal V16

The description of the OPC UA server of S7-1200 CPUs references properties of the S7-1500 OPC UA server that do not apply to S7-1200 CPUs. Example: Behavior of the OPC UA server when downloading.

An updated description of the OPC UA server of S7-1200 CPUs can be found in FAQ 109775168 (https://support.industry.siemens.com/cs/ww/en/view/109775168).

DB_ANY_TO_VARIANT (S7-1200/S7-1500)

Starting with V16 Update 1, error code 8155 is always output when an unknown DB is transferred. Output parameter RET_VAL is always set to zero in this case.

Up to now, the instruction only returned error code 8155 when an unknown PLC data type or an unknown ARRAY DB was transferred as an input parameter. In the case of an unknown ARRAY DB whose data blocks are based on a PLC data type (UDT), the error response was undefined.

In order to eliminate error 8155, elsewhere in the program a symbolic use of the ARRAY DB must be interconnected as an actual parameter with a formal parameter of data type VARIANT. To work correctly, it is sufficient if the point of use is downloaded. It is not necessary to execute it.

SCL: Arithmetic expressions and bit logic operations

In V16, the data type of an arithmetic expression did not follow the rules described in the documentation if the expression used both typed operands and untyped constants. In this case, the typed operand determined the data type of the expression, even if the untyped constant had the larger data width.

Starting with V16 Update 1, the following rules apply equally to all calculations with tags and constants:

- The operand with the longer data type determines the data type of the expression.

- If at least one of the data types is signed, signs are used for the calculation.

Example:

SINT + UINT = INT

A data type of the SINT has a length of 8 bits and contains signs. The data type UINT has a length of 16 bits and has no sign. In this case the data type of the expression is INT with a length of 16 bits and has a sign.

Editing function block types in the ProDiag overview editor

In TIA Portal V16, function block types can be changed in the ProDiag overview editor despite being "released". If you then create a test version of the type and release it, the changes will, however, be applied to the correct version.

Improvements in WinCC

<div style="text-align: right; font-size: 3em;">3</div>

3.1 Important notes

Character sets after Windows 10 update

Since Windows 10 Update Version 1809, Windows allows the installation of character sets either with administrator rights for each user (command "Install for all users" in the shortcut menu) or for specific users. In order to use WinCC character sets without restrictions and load them onto an HMI device, the character sets must always be installed with administrator rights.

Note that the "Install" button in the view of a character set only initiates a user-specific installation.

Projects in Runtime after Windows 10 update

You have installed Windows 10 version 1709 on a PC with WinCC Professional and a PC with WinCC Runtime Professional. You have performed a Windows 10 update to version 1803 or version 1809 on the Runtime PC. After the Windows 10 update, it might no longer be possible in Runtime under certain circumstances to:

- Compile a project without errors in the engineering system.

- Open a project loaded by the engineering system PC in Runtime.

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

Changing the installation directory

If you had installed the simulation with an earlier version of WinCC, you can no longer change the installation directory during installation.

3.2 Improvements in Update 1

This update contains the following improvements and changes:

Stability and performance

The stability and performance have been improved, among others, on account of the feedback received.

3.3 Runtime Advanced

3.3.1 Improvements in Update 1

This update contains the following improvements and changes:

Stability and performance

The stability and performance have been improved, among others, on account of the feedback received.

3.4 Runtime Professional

3.4.1 Improvements in Update 1

This update contains the following improvements and changes:

Stability and performance

The stability and performance have been improved, among others, on account of the feedback received.

WinCC WebNavigator

The algorithms for password encryption have been improved in the WinCCRTViewer application.

Improvements in WinCC Unified

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4.1 Important notes (WinCC Unified)

Password for simulation

If you have assigned a password for the encrypted transmission on a PC via the setup routine or via the "WinCC Unified Configuration" tool and want to start the simulation on this PC, the same password must be set in the Runtime settings of the device.

Screen objects for Unified Comfort Panel

The following screen objects are not supported by Unified Comfort Panel:

- Function trend control
- Media Player
- Process control
- Trend companion

Symbolic IO field

Text lists that are used on a symbolic I/O field may not contain texts exceeding 128 characters.

Touch area

The "Touch area" object distinguishes between the following gestures:

- Right
- Links
- Forward
- Backward

You need to program a J-script to differentiate the gestures.

1. Click in the Inspector window under "Properties > Events > Gesture detected".
2. Copy the code example into the programming window.

Code example

```
export function Touch_area_1_OnGestureDetected(item, gesture) {
// value of tag ‚MyTag1' will be set depending on the detected gesture
if(gesture == UI.Enums.HmiGesture.SwipeRight)
{
UI.RootWindow.Screen = 'ScreenRight';
let tag1 = Tags('tag1');
tag1.Write(1); //write value '1234' to tag 'MyTag1'
}
if(gesture == UI.Enums.HmiGesture.SwipeLeft)
{
UI.RootWindow.Screen = 'ScreenLeft';
let tag1 = Tags('tag1');
tag1.Write(2); //write value '1234' to tag 'MyTag1'
}
if(gesture == UI.Enums.HmiGesture.SwipeUp)
{
UI.RootWindow.Screen = 'ScreenUp';
let tag1 = Tags('tag1');
tag1.Write(3); //write value '1234' to tag 'MyTag1'
}
if(gesture == UI.Enums.HmiGesture.SwipeDown)
{
UI.RootWindow.Screen = 'ScreenDown';
let tag1 = Tags('tag1');
tag1.Write(4); //write value '1234' to tag 'MyTag1'
}
if(gesture == UI.Enums.HmiGesture.Unknown)
{
let tag1 = Tags('tag1');
tag1.Write(0); //write value '1234' to tag 'MyTag1'
}
}
```

Scripting - Tag.Write

The Tag.Write method works asynchronously. The Tag.Read method may return unexpected results if the processing of a preceding Write call is not yet complete.

Unified Comfort Panel

A Unified Comfort Panel can only be used as OPC UA client.

PROFINET functionality is not available for interface X2.

A fixed IP address must be specified when downloading via Ethernet.

The following changes to the settings of the SOC1 port (X1) require a manual restart of the panel:

- Settings related to the mode and speed of the SOC1 ports

- Deactivation of forwarding of DCP broadcasts

- Deactivation of sending of LLDP

- Activation/deactivation of SNMP

Restrictions on SVG graphics

The SVG graphics support the SVG 1.2 Tiny standard. Note the following restrictions when using SVG graphics:

- The CSS definitions are converted to inline attributes.

- Embedded scripts and non-local URLs are not supported in the SVG graphics and are removed from the original graphics during conversion when imported into TIA Portal.

- The use of SVG graphics with embedded graphics and animations is not supported.

- The use of large SVG graphics affects performance due to the load associated with the increased characters.

- Migration of SVG graphics from WinCC V7 to the TIA Portal is not supported.

- The following SVG characteristics are not supported:

  – Scripting

  – Interactivity

  – Styling

  – Expandability - no ForeignObjects

  – Animations

If screen items have the value "None" for the "Scale background graphic" property, set the following SVG attributes to display SVG graphics:

- Width: Pixel or percent

- Height: Pixel or percent

Note

Specifications for width and height

Specification in pixels is recommended. If width and height are not set, the pixel values entered in the SVG attribute "viewbox" are used. This does not apply to Firefox.

Note

Scaled SVG graphics in Chrome

Elements using an SVG graphic that was scaled in the engineering system as background graphic are not displayed correctly in Chrome in Runtime.

4.2 Improvements in Update 1 (WinCC Unified)

This update contains the following improvements and changes:

Stability and performance

The stability and performance have been improved, among others, on account of the feedback received.

4.3 Unified Runtime

4.3.1 Important notes (Unified Runtime)

Password for simulation

If you have assigned a password for the encrypted transmission on a PC via the setup routine or via the "WinCC Unified Configuration" tool and want to start the simulation on this PC, the same password must be set in the Runtime settings of the device.

Alarm view

In Runtime, a maximum of 2048 alarms can be displayed in an alarm view.

Scripting - Tag.Write

The Tag.Write method works asynchronously. The Tag.Read method may return unexpected results if the processing of a preceding Write call is not yet complete.

Using a Web server certificate created with the Certificate Manager

If you use a Web server certificate created with Certificate Manager on the Runtime server, re-install the certificate after you install the update.

Loading the logon page

If you experience display problems in the Web client after you install the update, completely delete the browser data (history, form entries, etc.).

4.3.2 Improvements in Unified Runtime Update 1

This update contains the following improvements and changes:

Stability and performance

The stability and performance have been improved, among others, on account of the feedback received.