SIEMENS

SIMATIC

Industrial Software
SIMATIC S7 F Systems V6.4

Readme

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

Security information

<div style="text-align: right; font-size: 3em;">1</div>

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/cert.

Introduction 2

Read the following instructions carefully because they contain important information for the installation and operation of the SIMATIC S7 F Systems V6.4 optional package that you must observe.

Installation instructions

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

3.1 Installing the SIMATIC S7 F Systems optional package

Software requirements

Operating systems

- The following operating systems are supported on the ES and OS:
    - MS Windows 10 Enterprise 2015 LTSB (64-bit)
    - MS Windows 10 Enterprise 2019 LTSC (64-bit)
    - MS Windows Server 2016 Standard Edition (64-bit)
    - MS Windows Server 2016 Datacenter Edition (64-bit)
    - MS Windows Server 2019 Standard Edition (64-bit)
    - MS Windows Server 2019 Datacenter Edition (64-bit)

Note

Release for Windows Server 2016 or 2019 Datacenter Edition

Windows Server 2016 or 2019 Datacenter Edition (64-bit) is only supported in connection with the SIMATIC Virtualization as a Service (SIVaaS) service contract.

You can find additional information in the Industry Online Support under entry ID 109762004.

- Internet link (https://support.industry.siemens.com/cs/ww/en/view/109762004)

Note

Microsoft updates for the operating systems

Before you start with the installation/upgrade of your computers to SIMATIC S7 F Systems 6.4, ensure that the currently released updates for the respective operating system are installed.

You can find information on the use of the latest Microsoft security updates in the Industry Online Support under entry ID 18490004.

- Internet link (https://support.industry.siemens.com/cs/ww/en/view/18490004)

To ensure secure and stable operation of the operating system, we recommend the installation of the mentioned updates.

Software packages

In order to operate SIMATIC S7 F Systems V6.4, the following software packages must be installed:

- On the ES:
    - Automation License Manager V6.0 SP5 Upd1 or higher
    - PCS 7 V9.0 SP3 or higher
      or
    - STEP 7 V5.6 SP2 or higher and CFC V9.0 SP4 or higher
      From V5.7, the option package "S7-PM V5.7" incl. license is additionally required.
- On the OS (for SIMATIC S7 F Systems HMI)
    - PCS 7 V9.0 SP3 or higher
    - Optional: WinCC V7.4 SP1 Upd14 or higher
- For offline testing
    - S7-PLCSIM V5.4 or higher
    - SIMIT VC V10.2 or higher

Available installation units

SIMATIC S7 F Systems comprises the following installation units:

- Engineering:
    - SIMATIC S7 F Systems V6.4
    - SIMATIC S7 F Systems HMI V6.4
    - SIMATIC S7 F Systems Library V1.3 SP4
    - SIMATIC S7 F Device Integration Pack V6.4
    - SIMATIC S7 F Configuration Pack V5.5 SP13
    - SIMATIC S7 F Configuration Pack V5.5 SP13 Upd1 (for STEP 7 version V5.7.0.0 or higher)
- Runtime:
    - SIMATIC S7 F Systems HMI V6.4

Installation options

The following options are available in the setup:

- Engineering AS and OS
  This option is used to install all S7 F Systems components on the ES, i.e. when the computer is used for AS and OS engineering.
  This option is used for the installation under SIMATIC PCS 7.

- Engineering AS
  This option is used to install the S7 F Systems components on the ES, i.e. when the computer is used for engineering the AS.
  This option is used:

  – For installation under SIMATIC STEP 7.

  – For updating S7 F Systems Engineering including S7 F Systems Library, S7 F Device Integration Pack, S7 F Configuration Pack under PCS 7.

- Engineering OS
  This option is used for installation of OS components on the ES, i.e. when the computer is used for the configuration of AS and OS and only the OS is to be updated.
  This option is used for the installation of the OS component S7 F Systems HMI under SIMATIC PCS 7.

- Runtime
  This option is used to install the OS components S7 F Systems HMI:

  – On the OS, i.e. when the computer is only used as OS (for example, in OS single station system, OS server, or OS with Web server).

The optional packages from S7 F Systems can also be installed via SIMATIC Management Console.

Installing S7 F Systems on the ES

1. Start the engineering station.

2. Save your changes in the "S7 F Systems Library" before installation.

3. Ensure that no STEP 7 applications are open.

4. Start the SETUP.EXE program on the installation storage medium.

5. Follow the instructions of the setup program.
   Select a program package with the engineering components of SIMATIC S7 F Systems in the setup.

   – "Engineering AS and OS"

   – "Engineering OS"

   – "Engineering AS"

   Detailed information on the options/program packages is available in the "Installation options" table above.

Installing S7 F Systems on the OS

1. Start your OS. Ensure that no SIMATIC applications are open.

2. Start the SETUP.EXE program on the installation storage medium.

3. Follow the instructions of the setup program.
   Select a program package with S7 F Systems HMI in the setup.

   – "Runtime"

   Detailed information on the options/program packages is available in the "Installation options" table above.

License key (usage authorization)

A license key is required for the S7 F Systems optional package. This license key is installed in the same way as for STEP 7 and the optional packages. For information on installing and working with the license key, refer to the readme file and the STEP 7 basic help.

Removing S7 F Systems

It is recommended not to uninstall the SIMATIC S7 F Systems components as this can lead to problems with your configuration.

If you want to remove SIMATIC S7 F Systems or one of the components, place it on a basic image of your system and reinstall the required components.

3.2 Example projects

There are four example projects in the "SIEMENS\STEP7\Examples" directory.

- ZEN32_01 F-project - for a fail-safe system (English)

- ZEN32_02 FH-project - for a fail-safe and fault-tolerant system (English)

- ZDT32_01 F-project - for a fail-safe system (German)

- ZDT32_02 FH-project - for a fail-safe and fault-tolerant system (German)

To use these example projects, you must first install S7 F Systems Library V1.3 SP2 (or higher).

The passwords for the supplied projects are:

- CPU password: **F_cpu123**

- Password for the safety program: **Fsys_v62**

The example projects are configured for non-redundant fail-safe input/output modules. Each example project was created with a module of the type F-DI, F-AI and F-DQ.

Notes on use

<div style="text-align: right; font-size: 3em;">4</div>

4.1 Notes on the optional package

Notes on "Increased password security"

Use of the "Increased password security" option in the "Create password for safety program" dialog is enabled by default starting with V6.3.

For projects with Safety Matrix prior to V6.3, this option must be deactivated unless otherwise described in the Safety Matrix product. See the documentation of the respective version of Safety Matrix for additional information.

Supported versions of Safety Matrix

S7 F Systems V6.4 is compatible with Safety Matrix V6.2 SP2 Upd2 and V6.3 Upd2.

Please heed the note above on "Increased password security" for version 6.2 SP2 Upd2.

The "Safety Data Write" functionality is no longer supported

The "Safety Data Write" functionality for safety-related modification of F-parameters in the safety program of an F-CPU from an operator station (OS) is no longer supported from S7 F Systems V6.4.

Migration to the "Secure Write Command" (SWC) function is recommended.

You can find additional information in the *SIMATIC S7 F/FH Systems - Configuring and Programming* Programming and Operating Manual.

Password of the S7 F Systems Library

The password for the included S7 F Systems Library is:

• Fsys_v63

4.2 Notes on the documentation

Manuals are copied to the ES/OS during the installation process. You can find the installed manuals in the Windows Start menu in the subdirectory "Siemens Automation > Documentation > Manuals".

You can find the manuals on the installation storage medium in the directory "_Manuals\English".

You can find the current versions of the manuals on the Internet at: http://www.siemens.com/simatic-tech-doku-portal