

SIEMENS

SIMATIC

Process Control System SIMATIC Route Control - Readme V9.1 SP2 (Online)


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.

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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/cert>.

Scope of delivery

Depending on the scope of the order:

Product	License type	Version
SIMATIC Route Control Server	Single license	V9.1
SIMATIC Route Control (10 Routes)	Single license	
SIMATIC Route Control (50 Routes)	Single license	
SIMATIC Route Control Engineering	Floating license	V9.1
SIMATIC Route Control Center	Floating license	V9.1

SIMATIC Route Control consists of:

- SIMATIC Route Control Library
- SIMATIC Route Control Engineering (configuration interface including Route Control Wizard)
- SIMATIC Route Control Server
- SIMATIC Route Control Faceplate
- SIMATIC Route Control Center
- SIMATIC Route Control Route Log

The authorizations (license keys) are included on the supplied USB medium.

Additional information:

- This readme file
- Online help files
- User manual in electronic form

Requirements and general information

3.1 AS requirements

Hardware requirements

SIMATIC Route Control supports the following CPU types:

- CPU 416-3 (note: small quantity framework with approx. 30 routes)
- CPU 417-4
- CPU 417-4H
- CPU 417-5H
- CPU 410-5H Process Automation
- PCS 7 BOX

SIMATIC Route Control has been tested with S7 F Systems and SIMATIC Safety Matrix for compatibility.

Note

The AS for SIMATIC Route Control must always be battery-operated to avoid data inconsistency in case of a power failure.

Software requirements

SIMATIC Route Control requires at least firmware version 3.1.0 for all CPUs.

With AS 410 (firmware 8.2 onwards) delay times up to 3 minutes might occur during requests of new routes. If the delay times of that order cannot be tolerated the usage of AS 410 (firmware 8.2 onwards) together with Route Control is not recommended until further notice. Please contact SIEMENS product support to get individual assistance.

3.2 OS requirements

Hardware requirements

SIMATIC Route Control V9.1 SP2 based on PCS 7 V9.1 SP2 has been tested for compatibility with OS.

You can find recommendations on the hardware for PC stations in the manual *SIMATIC Process Control System PCS 7; PC Configuration*.

Software requirements

SIMATIC Route Control V9.1 SP2 based on SIMATIC PCS 7 V9.1 SP2 has been tested for compatibility with OS.

The software requirements for SIMATIC PCS 7 V9.1 SP2 apply.

Installation

4.1 Software

Requirements

The requirements which applies to SIMATIC PCS 7 V9.1 SP2 installation and operation is applicable to SIMATIC Route Control as well.

SIMATIC Route Control requires the SIMATIC PCS 7 operating system for client and server, which are listed in *SIMATIC PCS 7 Readme V9.1 SP2(Online)*. To get more information about SIMATIC PCS 7 software requirements, please refer to *SIMATIC PCS 7 Readme V9.1 SP2 (Online)* (<https://support.industry.siemens.com/cs/us/en/view/109806027>).

Installation

The SIMATIC Route Control components are installed with the RC system setup.

You can select between two types of installation:

- Package installation
- User-defined installation

Select the package installation if you want to install a SIMATIC PCS 7 client, SIMATIC PCS 7 server, or SIMATIC PCS 7 engineering station. You can then specify the products in each case (SIMATIC Batch, WinCC, SIMATIC Route Control, etc.).

With a user-defined installation, in contrast, you can select individual functional packages of the products. Specific to SIMATIC Route Control, these are: Base, Engineering, Server, Client, Library, Faceplate, WinCC Options and Getting Started. Note that Server, Client and Engineering require other packages (e.g. Base). Any dependencies are automatically considered in the package installation by the SIMATIC Route Control system setup.

Note

During the installation, the SIMATIC Route Control system setup configures five user groups for SIMATIC Route Control.

- The user who performs the installation is automatically assigned to the group RC_MAINTENANCE.
 - The application for viewing the route protocol is part of a SIMATIC Route Control client.
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4.2 Authorizations

You need license keys for the following components:

- SIMATIC Route Control Server
- SIMATIC Route Control Routes
For 10 or 50 material transports, maximum of 300 material transports can be combined.
Alternatively can use the single "Test" license. Maximum 300 material transport can be done.
- SIMATIC Route Control Engineering
- SIMATIC Route Control Control Center

Software update

5.1 Update of the AS blocks

When SIMATIC Route Control V9.1 SP2 is installed, a new SIMATIC Route Control Library is also installed. This differs from SIMATIC Route Control V9.1 SP1.

RC block FC822 has sent a QVALUE_R of the Parameter Element of the Route Control Client, so that external value will reflect in RCC without manual refresh.

To get more information about the previous versions, read the corresponding readme files.

Note

It is possible to copy all SIMATIC Route Control blocks (FB, FC, DB, UDT) from the newly installed SIMATIC Route Control V9.1 SP2 Library into your projects.

If you do so, note:

- If you have adapted the SFC types (RC_IF_SFC/FB849 and RC_IF_SFC_SB/FB841) contained as templates in the library in *your* projects to *your* requirements you should not copy these blocks.
 - The central function "Charts -> Update block types" does not copy data blocks, for this reason, you must manually copy the Route Control blocks (including the data blocks) into the user projects and also start the block type adjustment manually.
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5.2 Software update during operation (SUIR)

Software update during operation (SUIR) is only possible from V9.1 SP1 to V9.1 SP2, other combinations are not supported for V9.1 SP2. For more information regarding SUIR, refer topic "4.5.5 Plant Update" in *SIMATIC Route Control V9.1 SP2* manual.

What's New

6.1 SIMATIC Route Control V9.1 SP2

Below you will find information on new and/or enhanced features of SIMATIC Route Control V9.1 SP2 as compared to the previous version V9.1 SP1.

License

Supported a countable test license. With a single license maximum number of routes can be executed.

RC Wizard

Fixed the crashes and stabilized the wizard modules in EU, CHS and FE versions.

Route Control Server

- Improved the server status display message to view the clear runtime status.
- Improved the communication between Route Control Server and Route Control Client when only client installed in machine.

Route Control Engineering

- In complex configurations, incorrect handling of the RC Engineering system leads to inconsistent entries remaining in the database as data garbage. Now the logic has been improved so that the RC Engineering system performs self-correction when inconsistent entries are retained. There could also be some of the corner scenarios, this must be handled manually. For more details, refer chapter "7. Block Library" in Route control help document.
- Special errors on RC Engineering export/import functionalities are handled now when the huge engineering data exists.

Route Control Library

- Updated comments in the RC_CFG_1AS and RC_CFG_1AS CFC template to provide a quick reference to the user.
- External PE values are automatically updated in RCC when they are changed. There is no need to manually update RCC for PE. Feedback changes are also still displayed as expected.
- Versions of the blocks are validated and intact with the release version. This means there are no more conflicts for the user.

Documentation

Improved the functionality details in the SIMATIC Route Control help manual.

Special considerations and usage notes

Note

SIMATIC Route Control V9.1 SP2 has been tested for compatibility with SIMATIC PCS 7 V9.1 SP2.

CSV export/import

Improved logic corrects the database if a mismatch occurs in the technical database. However, there still might be a problem when the project is migrated from very older versions. This is because some of the error corrections require user input. Therefore, these corrections are included in the log file during the import in Engineering.

The error is clearly marked, the user must manually review the log and use the RC Engineering system to manually correct the error.

Open the log file after the import and locate the "Error" text and identify the "Subsection" and the "Element Name".

Open RC Engineering, navigate to the same faulty element in the respective subsection and delete it manually.

Getting Started

The description of the "Getting Started" contained in SIMATIC Route Control V9.1 / V9.0 Update 4 still contains the version number V9.0. However, the described procedure for creating the example project also applies to version V9.1 / V9.0 Update 4.

Windows Server 2019 Standard

Location points in "Route Control faceplate" and the "Drop-down list for the selection of locations":

The correct visualization of the location points in the objects mentioned above is only guaranteed if the network adapter of the terminal bus has the highest priority. The priorities of the network adapter can be determined with the command prompt via "ipconfig" or the communication settings in the SIMATIC Shell.

In contrast to the other server operating systems (for example, Windows Server 2012), Windows Server 2019 Standard does not offer the possibility to change the priority of the network adapter via configuration.

To ensure that the terminal bus card still has the highest priority, make sure that it is recognized by the operating system beforehand. This can be achieved by changing the physical configuration of the network cards used.

As an alternative, you can also change the following settings:

1. Open the network connections and right-click on the network where you want to change the priority.
2. Select "Properties" and click "Internet Protocol Version 4 (TCP/IPv4)" under Network Properties.
3. Click on "Properties" again and then on the "Advanced" button.
4. In the "Advanced TCP/IP Settings" dialog, deselect "Automatic Metrics" and enter the connection order for the network
5. To save the priority changes, click "OK" and restart the computer.

Note

Lower value indicates a higher priority.
