

SIEMENS

Ingenuity for life



S7-200 SMART as I-Device

S7-200 SMART V2.5

<https://w3.siemens.co.in/automation/in/en/automation-systems/industrial-automation/s7-200->

Siemens
Industry
Online
Support



Legal information

Use of application examples

Application examples illustrate the solution of automation tasks through an interaction of several components in the form of text, graphics and/or software modules. The application examples are a free service by Siemens AG and/or a subsidiary of Siemens AG ("Siemens"). They are non-binding and make no claim to completeness or functionality regarding configuration and equipment. The application examples merely offer help with typical tasks; they do not constitute customer-specific solutions. You yourself are responsible for the proper and safe operation of the products in accordance with applicable regulations and must also check the function of the respective application example and customize it for your system.

Siemens grants you the non-exclusive, non-sub licensable and non-transferable right to have the application examples used by technically trained personnel. Any change to the application examples is your responsibility. Sharing the application examples with third parties or copying the application examples or excerpts thereof is permitted only in combination with your own products. The application examples are not required to undergo the customary tests and quality inspections of a chargeable product; they may have functional and performance defects as well as errors. It is your responsibility to use them in such a manner that any malfunctions that may occur do not result in property damage or injury to persons.

Disclaimer of liability

Siemens shall not assume any liability, for any legal reason whatsoever, including, without limitation, liability for the usability, availability, completeness and freedom from defects of the application examples as well as for related information, configuration and performance data and any damage caused thereby. This shall not apply in cases of mandatory liability, for example under the German Product Liability Act, or in cases of intent, gross negligence, or culpable loss of life, bodily injury or damage to health, non-compliance with a guarantee, fraudulent non-disclosure of a defect, or culpable breach of material contractual obligations. Claims for damages arising from a breach of material contractual obligations shall however be limited to the foreseeable damage typical of the type of agreement, unless liability arises from intent or gross negligence or is based on loss of life, bodily injury or damage to health. The foregoing provisions do not imply any change in the burden of proof to your detriment. You shall indemnify Siemens against existing or future claims of third parties in this connection except where Siemens is mandatorily liable.

By using the application examples you acknowledge that Siemens cannot be held liable for any damage beyond the liability provisions described.

Other information

Siemens reserves the right to make changes to the application examples at any time without notice. In case of discrepancies between the suggestions in the application examples and other Siemens publications such as catalogs, the content of the other documentation shall have precedence.

The Siemens terms of use (<https://support.industry.siemens.com>) shall also apply.

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 at: <https://www.siemens.com/industrialsecurity>.

Table of contents

Warranty and liability	2
1 Introduction	4
1.1 Overview.....	4
1.2 Components used	4
2 Engineering	5
2.1 Hardware setup	5
3 Engineering	6
3.1 S7-200 Smart I-Device Configuration	6
4 Appendix	18
4.1 Service and support	18
4.2 Application support.....	19
4.3 Links and literature	19
4.4 Change documentation	19

1 Introduction

1.1 Overview

From S7-200 SMART V2.5 version, S7-200 SMART began to support smart devices for PROFINET IO communication. As an intelligent device, S7-200 SMART can communicate with another controller such as S7-200 SMART/S7-1200/S7-1500 or PROFINETIO communication with other devices that support PROFINET IO controller.

This document takes S7-1500 as an IO controller as an example to illustrate the configuration steps for S7-200 SMART as an intelligent device to perform PROFINET IO communication with other IO controllers other than S7-200 SMART.

1.2 Components used

This application example has been created with the following hardware and software components:

Table 1-1

Component	Number	Article number	Note
CPU ST40	1	6ES7288-1ST40-0AA0	Firmware Ver. 2.5
S7-1515-2PN	1	6ES7515-2AM02-0AB0	
STEP 7-MicroWIN SMART V2.5	1	6ES7-288S-W01-0AA0	
Scalance XB008	1	6GK5008-0BA00-1AB2	

Table 1-2

Component	Number	Article number	Note
CPU ST40	4	6ES7288-1ST40-0AA0	Firmware Ver. 2.5
S7-1515-2PN	1	6ES7515-2AM02-0AB0	
STEP 7-MicroWIN SMART V2.5	1	6ES7-288S-W01-0AA0	
Scalance XB008	1	6GK5008-0BA00-1AB2	

This application example consists of the following components:

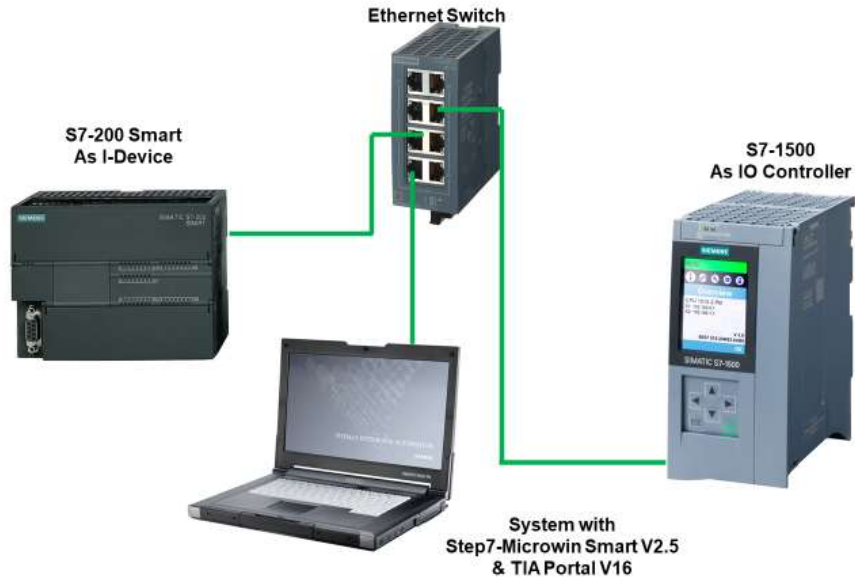
Table 1-3

Component	File name	Note
S7-200 SMART as I-Device	1) S7200smart_IDevice.smart	

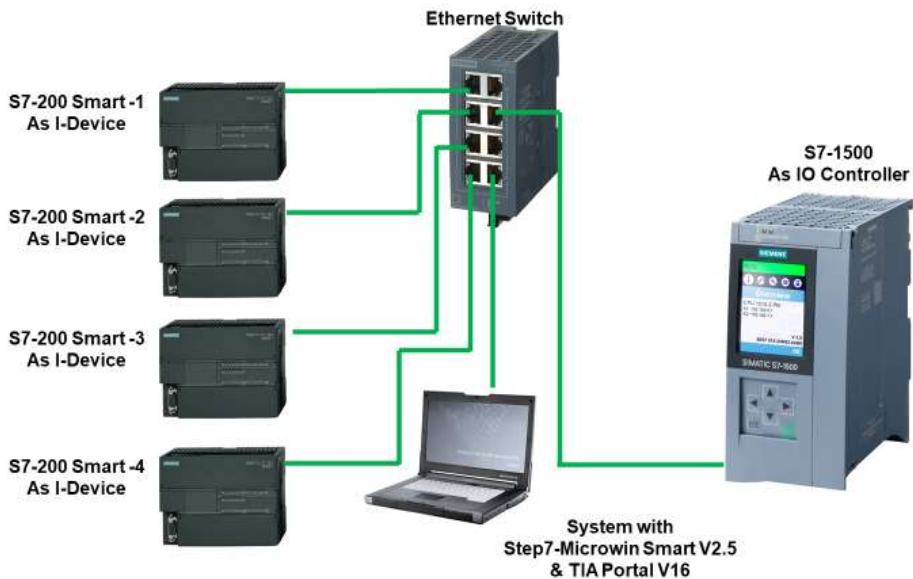
2 Engineering

2.1 Hardware setup:

The figure below shows a schematic overview of the most important components of the solution:



2.1.a - Scenario 1



2.1.b - Scenario 2

3 Engineering

3.1 S7-200 Smart I-Device Configuration

- 1) Create a new project, open the system block, select CPU ST40, select CPU firmware V2.5, and set the mode after selecting CPU startup to run. As shown in Figure 1.

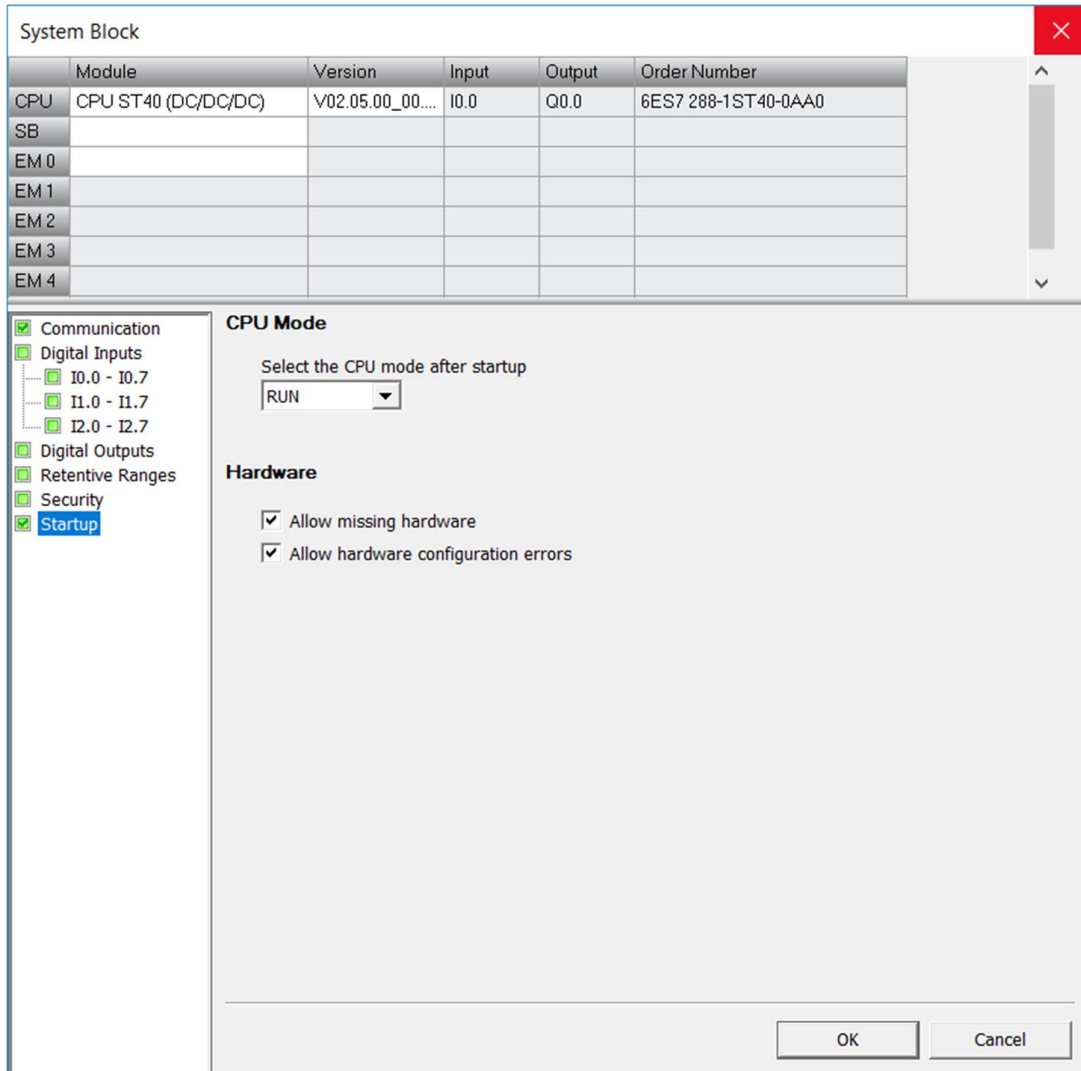


Figure 1. Add CPU to system block

- 2) There are two methods to open the PROFINET wizard, one of which is to open the wizard. as shown in Figure 2.

3 Engineering

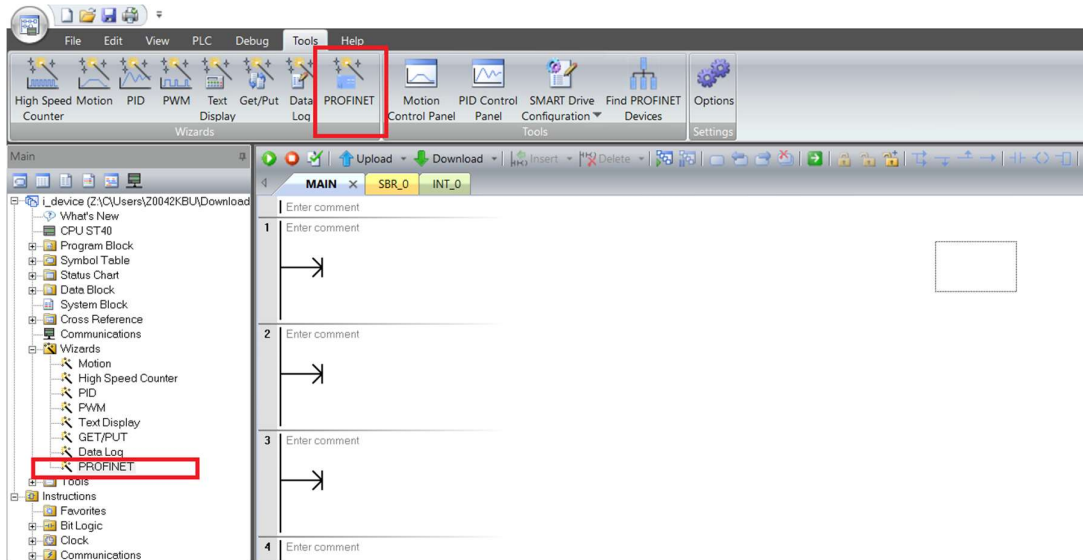


Figure 2. Open PROFINET wizard

- 3) Check the PLC role as a smart device; select a fixed IP address and station name for the Ethernet port: the IP address is 192.168.0.40, the subnet mask is 255.255.255.0, and the device name is st40. As shown in Figure 3.

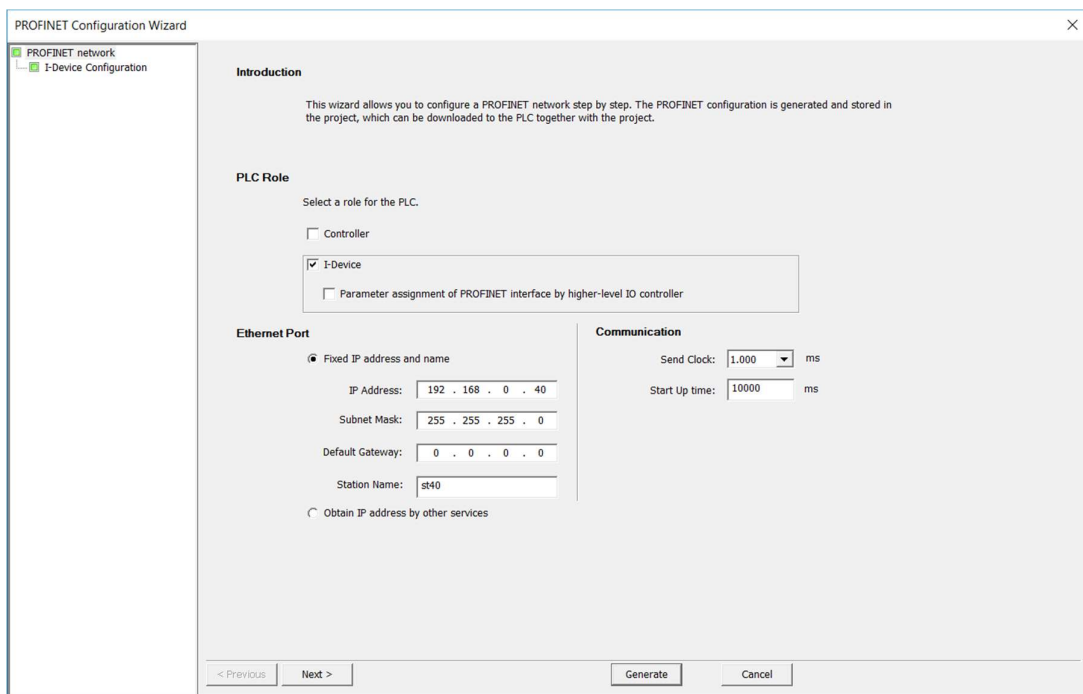


Figure 3. Set PLC role IP address and device name

- 4) Add the transfer area. The first entry is a 10-byte input area starting from IB1152, and the second entry is a 10-byte output area starting from QB1152. Browse the appropriate path to store the GSD file, and then directly Export GSD file. As shown in Figure 4.

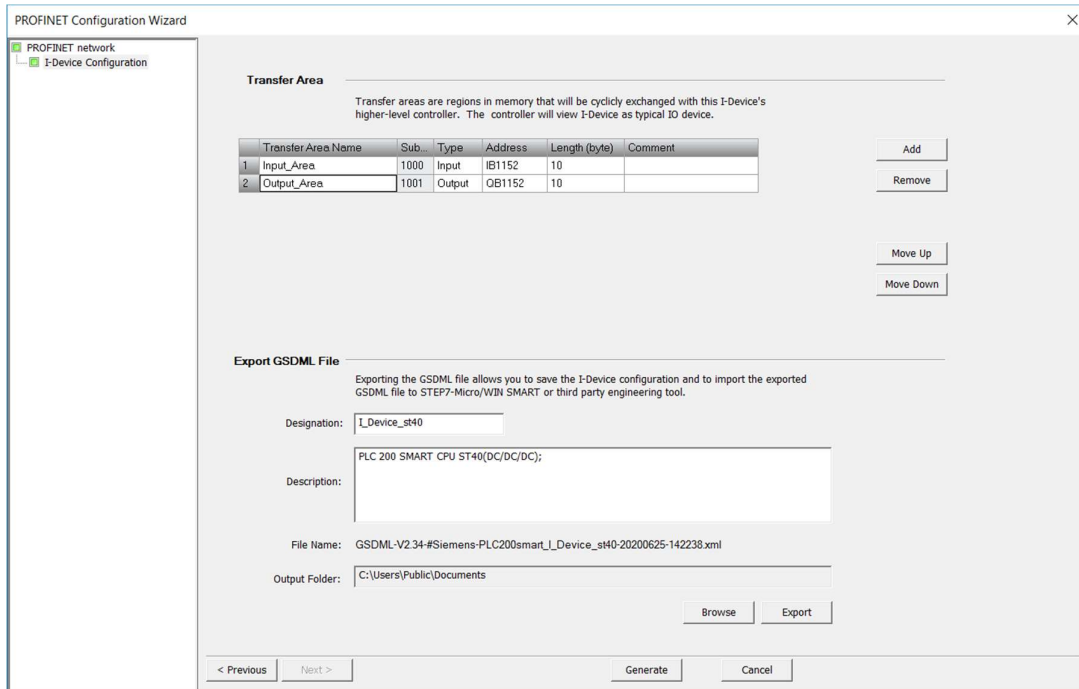


Figure 4. Add transfer area and export GSD file

4 Appendix

4.1 Service and support

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

The Industry Online Support is the central address for information about our products, solutions and services.

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks:

support.industry.siemens.com

Technical Support

The Technical Support of Siemens Industry provides you fast and competent support regarding all technical queries with numerous tailor-made offers

– ranging from basic support to individual support contracts. Please send queries to Technical Support via Web form:

www.siemens.com/industry/supportrequest

SITRAIN – Training for Industry

We support you with our globally available training courses for industry with practical experience, innovative learning methods and a concept that's tailored to the customer's specific needs.

For more information on our offered trainings and courses, as well as their locations and dates, refer to our web page:

www.siemens.com/sitrain

Service offer

Our range of services includes the following:

- Plant data services
- Spare parts services
- Repair services
- On-site and maintenance services
- Retrofitting and modernization services
- Service programs and contracts

You can find detailed information on our range of services in the service catalog web page:

support.industry.siemens.com/cs/sc

Industry Online Support app

You will receive optimum support wherever you are with the "Siemens Industry Online Support" app. The app is available for Apple iOS, Android and Windows Phone:

support.industry.siemens.com/cs/ww/en/sc/2067

4.2 Application support

Siemens Ltd
 RC-IN DF FA SUP
 Thane Belapur Road
 Thane 400601, India

Pre-sales Support
 Email: rginslpresales-fa.in@siemens.com

4.3 Links and literature

Table 4-1

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to this entry page of this application example https://w3.siemens.co.in/automation/in/en/automation-systems/industrial-automation/s7-200-smart-plc/pages/default.aspx
\3\	

4.4 Change documentation

Table 4-2

Version	Date	Modifications
V1.0	07/2019	First version