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S7-1500/ET 200 CPUs, ET 200MP Product information on the S7-1500/ET 200 CPUs, ET 200MP documentation

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05/2026
A5E31876033-BJ

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 persons are those who, because of their training and experience, are familiar with the installation, assembly, commissioning, operation, decommissioning and disassembly of the product and can recognize risks and avoid possible hazards.

Proper use of Siemens products

Note the following:

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Siemens products may only be used for the application described in the catalog and the associated usage information. 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.

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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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Introduction

1

1.1 Scope of validity

Scope of validity of the product information

This product information supplements the documentation for SIMATIC S7-1500/ET 200 CPUs and ET 200MP and takes precedence over our system manuals, function manuals, equipment manuals and the operating instructions of the 1513pro-2 PN and 1516pro-2 PN CPUs.

You can find additional information on the S7-1500 fail-safe CPUs in the Product Information for F-CPUs on the Internet (https://support.industry.siemens.com/cs/us/en/view/109478599).

You can find additional information on SIMATIC S7-1500 Motion Control in the corresponding product information on the Internet (https://support.industry.siemens.com/cs/us/en/view/109794046).

Cybersecurity information

2

Siemens provides products and solutions with industrial cybersecurity 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 cybersecurity 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 cybersecurity measures that may be implemented, please visit
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To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under
https://www.siemens.com/cert.

Amendments to documentation S7-1500/ET 200MP 3

S7-1500 - CPU 1518-4 PN/DP MFP

Manual CPU 1518-4 PN/DP MFP (6ES7518-4AX00-1AB0), Edition 09/2025, Section Quick start instructions for commissioning C/C++ Runtime

NOTE: Recompilation after the firmware update.

If you have performed an update to firmware version V3.1.5 **or higher**, you have to recompile the user applications with the SDK.

Procedure for downgrades

If you downgrade the firmware version of the CPU from V3.1.5 **or higher** to an older version, you should not make any changes to the encryption. Doing so would block access to the C/C++ Runtime.

ET 200MP with IM 155-5 MF HF - MF Shared Device in the sections Ethernet/IP and Modbus TCP

Equipment Manual IM 155-5 MF HF (6ES7155-5MU00-0CN0), Edition 11/2025

Four ARs are available; these are shared by the fieldbuses. For EtherNet/IP and Modbus TCP, only one AR is reserved in each case, regardless of the number of controller connections used.

The maximum amount of I/O data must comply with the rules of the following table:

Number of fieldbus connections			Maximum I/O data per connection[1]		Max. download size with MFCT [1]	
PROFINET	**EtherNet /IP**	**Modbus TCP**	**Inputs**	**Outputs**	**Inputs**	**Outputs**
0	1 to 2	1 to 10	500	246	1440	1440
1	1 to 2	0	EtherNet/IP: 500 Modbus TCP: 500 PROFINET: 1440	EtherNet/IP: 246 Modbus TCP: 246 PROFINET: 1440	Download size[2]: 1440	Download size[2]: 1440
1	0	1 to 10				
1	1 to 2	1 to 10	EtherNet/IP: 500 Modbus TCP: 500 PROFINET: 1440	EtherNet/IP: 246 Modbus TCP: 246 PROFINET: 1440	Download size[2]: 1440	Download size[2]: 1440
2	1 to 2	0				
2	0	1 to 10				
2	1 to 2	1 to 10				

1 Including PROFINET payload qualifier or data status byte for signaling the data validity

2 PROFINET data + download size as displayed in MFCT ≤ 5760

The total size of all input data (PROFINET ARs) + the size of all output data across all PROFINET ARs + the download size should be less than 5760 bytes.

NOTE

The intensive use of Shared Device (multiple fieldbus connections with very large I/O configuration limits) and other functions such as Virtual Module affect the performance of the interface module.

To avoid temporarily exceeding the I/O configuration limits, you must proceed as follows in the case of a reconfiguration that results in changed I/O lengths:

1. Reduce the amount of I/O data in one configuration and download it to the MF device/CPU.
2. Increase the amount of I/O data in the other configuration and download it to the MF device/CPU.

Communication Function Manual, Edition 11/2025

Communications services, Secure Communication, Protection of confidential configuration data

If you connect to the CPU online, the user management loaded onto the CPU applies. A user with the required function rights can start loading from the CPU without needing to enter the password for the protection of confidential configuration data.

Recommendation: Always load user management onto your CPU. Otherwise, everyone who can connect to the CPU online has full access to all CPU data.

Enabling/disabling routing, IP forwarding via data record transfer: Example for a CPU 1516-3 PN/DP

You can enable/disable IPv4 forwarding for CPUs as of FW version V4.1 via the user program, regardless of which STEP 7 version is installed.

Connecting inductances to quenching elements

Function Manual Designing interference-free controllers, Edition 06/2014

In contrast to the specifications in section 6 "Special measures for interference-free operation", the following applies to wiring with quenching elements:

The inductances controlled by SIMATIC modules (for example, contactor or relay coils) require wiring with external quenching elements since **no** quenching elements are integrated in the modules.

The wiring examples with quenching elements in section 6 of the Function Manual still apply.

S7-1500/ET 200MP – digital output module DQ 8x24VDC/2A HF

Equipment Manual DQ 8x24VDC/2A HF**, Edition 06/2018, Technical specifications section**

Maximum permitted switching frequency of inductive loads

The following trends show the maximum permissible switching frequency of inductive loads as a function of the inductance and channel current. The maximum switching frequency applies to a pulse-pause ratio of 50%. The channel contributes 500 mA to the total current of the module, even if the actual channel current is smaller.

If you do not know the inductance of the actuator, assume a maximum inductance of 1.152 H for DC-13 loads (IEC 60947-5-1).

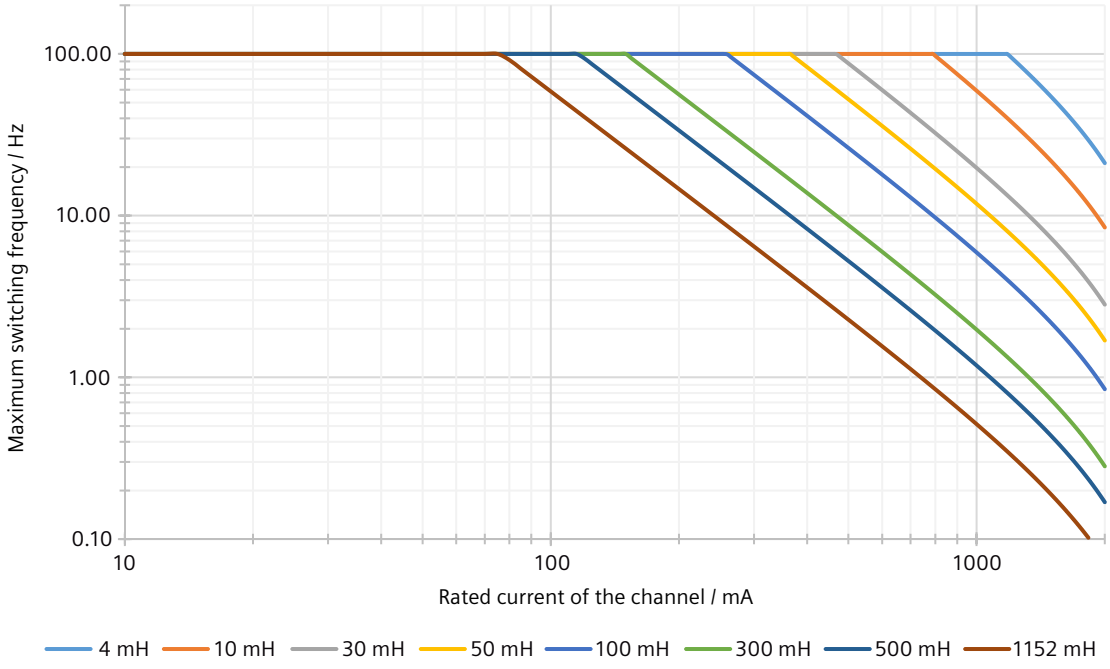


Figure 3-1 Maximum switching frequency

SIMATIC Memory Card – Overview

Structure and use of the CPU memory Function Manual 11/2023 edition

NOTE

Supported file/directory names and hierarchy levels on the SIMATIC Memory Card

The following rules apply to file names, directory names and hierarchy levels on the SIMATIC Memory Card:

- Do not use any umlauts (ö, ä, ü, Ö, Ä, Ü) in file and/or directory names.
- Use a maximum of 60 characters for file and/or directory names.
- Use a maximum of 6 hierarchy levels for the directory structure of the SIMATIC Memory Card (for example: /mountpoint/1/2/3/4/5/6/file.txt).
  The operating system of the CPU guarantees directories of no more than 8 levels, where one level is reserved for the mount point and one for the actual file.

ET 200MP with IM 155-5 PN ST - Channel diagnostics, MSI/MSO

Equipment Manual IM 155-5 PN ST interface module, Edition 11/2017

Channel diagnostics

In contrast to the order specified in the manual, the User Structure Identifiers (USI) are structured as follows:

- USI data block
- Reserved bytes
- Manufacturer-specific diagnostics

ET 200MP with IM 155-5 DP ST – Operation on a WIN AC RTX

When operating the ET 200MP (PROFIBUS) on a WIN AC RTX, configuration is only possible via a GSD file (selection in the hardware catalog under "Additional field devices"). Configuration on the basis of a support package is not supported in TIA Portal for this device arrangement.

ET 200MP with IM 155-5 DP ST - operation on Y-Link, interrupts, technical specifications

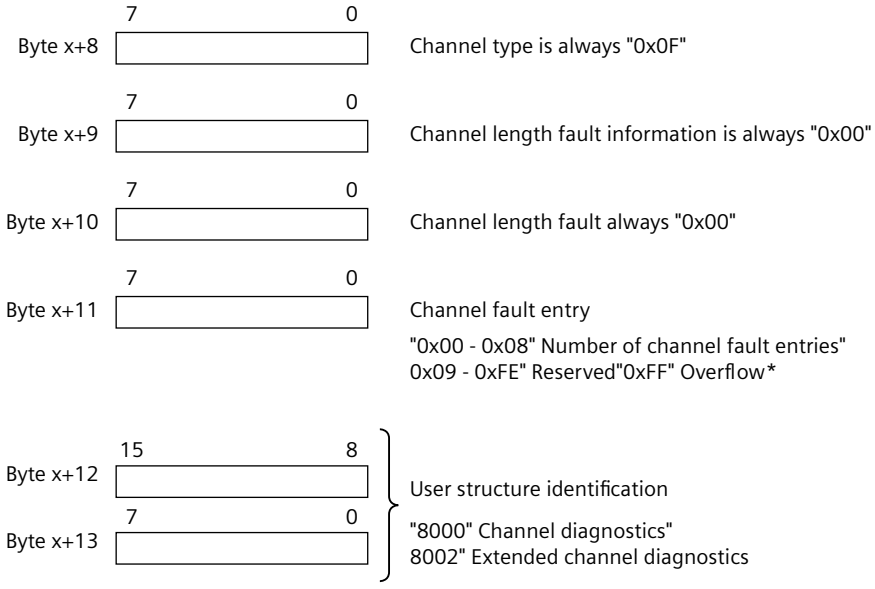
Equipment Manual IM 155-5 DP ST interface module, Edition 08/2013

Operation on Y-Link

As of firmware version V2.0.0, it is possible to operate the IM 155-5 DP ST interface module as a DP slave after the Y-Link.

Interrupts

The bytes x+8 to x+19 of the diagnostic interrupt are assigned as follows:



* The number of existing channel faults is greater than 8.

Figure 3-2 Structure starting at byte x+8

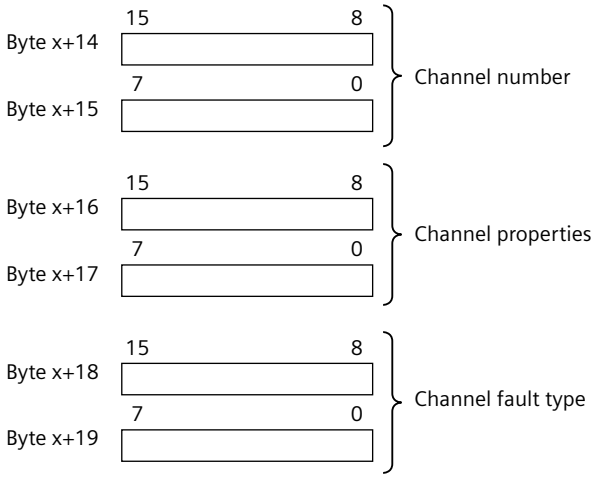


Figure 3-3 Structure starting at byte x+14

Technical specifications

For the IM 155-5 DP ST, it is possible to assign a maximum of 64 bytes of inputs and a maximum of 64 bytes of outputs to the address space per module.

S7-1500/ET 200MP - Substitute value behavior in shared device mode

Observe the following special characteristics for substitute value behavior in shared device mode with the modules/configurations in the following table:

NOTE

Substitute value behavior in shared device mode

If the system is in shared device mode and one of the IO controllers involved goes into STOP or fails due to a communication breakdown, for example, all submodules of the output module perform the configured substitute value reaction (e.g. shutdown).

This means that even when only one IO controller fails, that the other IO controllers associated with the shared device no longer control the assigned submodule of the output module.

Module/module name	Configuration	Article no.:
DQ 32x24VDC/0.5A BA	4 x 8-channel without value status	6ES7522-1BL10-0AA0
DQ 16x24VDC/0.5A BA	2 x 8-channel without value status	6ES7522-1BH10-0AA0

S7-1500/ET 200MP - Modules with isochronous mode

The following configurations rule out isochronous mode of the module:

- Module-internal shared input (MSI)
- Module-internal shared output (MSO)
- Submodules for shared device

S7-1500/ET 200MP - Calibration of analog modules

Requirements: The module is integrated in the hardware catalog of STEP 7 (TIA Portal) (no GSD file).

The "Calibration" function (calibration in RUN) is only possible with the following configurations.

Module/module name	Configuration	Article no.:
AI 8xU/I/RTD/TC ST QI	1 x 8-channel with value status	6ES7531-7KF00-0AB0
AI 8xU/I/RTD/TC ST	1 x 8-channel without value status	
AI 8xU/I HS QI	1 x 8-channel with value status	6ES7531-7NF10-0AB0
AI 8xU/I HS	1 x 8-channel without value status	
AQ 8xU/I HS QI	1 x 8-channel with value status	6ES7532-5HF00-0AB0
AQ 8xU/I HS	1 x 8-channel without value status	
AQ 4xU/I ST QI	1 x 4-channel with value status	6ES7532-5HD00-0AB0
AQ 4xU/I ST	1 x 4-channel without value status	
AQ 4xU/I HF QI	1 x 4-channel with value status	6ES7532-5ND00-0AB0
AQ 4xU/I HF	1 x 4-channel without value status	

Module/module name	Configuration	Article no.:
AI 4xU/I/RTD/TC/ AQ 2xU/I ST QI	1 x 6-channel with value status	6ES7534-7QE00-0AB0
AI 4xU/I/RTD/TC/ AQ 2xU/I ST	1 x 6-channel without value status	
AI 4xU/I/RTD/TC ST QI	1 x 4-channel with value status	6ES7531-7QD00-0AB0
AI 4xU/I/RTD/TC ST	1 x 4-channel without value status	
AQ 2xU/I ST QI	1 x 2-channel with value status	6ES7532-5NB00-0AB0
AQ 2xU/I ST	1 x 2-channel without value status	

S7-1500/ET 200MP - Technical specifications

Equipment Manual AI 8xU/I HS (6ES7531-7NF10-0AB0), Edition 12/2016

Equipment Manual AI 4xU/I/RTD/TC ST (6ES7531-7QD00-0AB0), Edition 09/2016

Equipment Manual AI 4xU/I/RTD/TC / AQ 2xU/I ST (6ES7534-7QE00-0AB0), Edition 09/2016

Contrary to the information given in the manuals, the following statements apply:

24 V encoder supply	
Short-circuit protection	Yes
Output current, max.	20 mA; max. 47 mA per channel for a duration < 10 s

The "encoder supply" depends on the module and is described in the technical specifications of the respective device manual. You can find the data sheet including daily updated technical specifications on the Internet (https://support.industry.siemens.com/cs/ww/en/ps/td). Enter the article number or the short designation of the desired module on the website.

S7-1500/ET 200MP - Analog Output Module AQ 8xU/I HS

Equipment Manual AQ 8xU/I HS (6ES7532-5HF00-0AB0), Edition 09/2016, Technical specifications section

Derating depending on mounting position, ambient temperature and output type (per module):

Deviating from the information in the equipment manual, the following statement applies:

The trends illustrated in the equipment manual show the number of channels (CHx) that can be **simultaneously activated** in horizontal and vertical installation of the S7-1500 automation system / ET 200MP distributed I/O system depending on the ambient temperature.

Shared device

Shared device is not possible with the HSP0318 in the combination of active backplane bus and S7-300/400 CPUs as IO controller.

This combination is possible with GSD file (in STEP 7 as of V5.5 and in STEP 7 (TIA Portal)).

Shared device with active backplane bus and S7-1500 CPUs as IO controller is possible with the HSP0318 and with GSD file.

S7-1500/ET 200MP - Digital Input Module DI 16xNAMUR HF

Equipment Manual DI 16xNAMUR HF (6ES7521-7TH00-0AB0), Edition 07/2021, Technical specifications section

Tolerances of the programmable input delay

Deviating from the tolerance range for input delay 0.05 ms specified in the Equipment Manual, the following values apply:

Input delay	Tolerance range
0.05 ms	14 µs to 22 µs

This modified tolerance range applies to all operating modes of the module.

The difference in tolerance range from that of other S7-1500 digital input modules is due to the extended counting frequency of the module of up to 20 kHz.

Integrated counting functions

You can optionally parameterize up to 4 inputs as counters with 2 x 20 kHz and 2 x 10 kHz or 4 x 10 kHz.

S7-1500/ET 200MP - Digital output module DQ 8x230VAC/2A ST Triac

Equipment Manual DQ 8x230VAC/2A ST Triac (6ES7522-5FF00-0AB0), Edition 12/2021, Address space section

Table 3-1 Configuration options

Configuration	Short designation / module name in the GSD file	Configuration software, e.g., STEP 7 (TIA Portal)	
		Integrated in hardware catalog STEP 7 (TIA Portal)	GSD file in STEP 7 (TIA Portal) V12 or higher or STEP 7 V5.5 SP3 or higher
1 x 8-channel without value status	DQ 8x230VAC/2A ST	X	X
1 x 8-channel with value status for module-internal Shared Output with up to 4 submodules	DQ 8x230VAC/2A ST MSO	V13 Update 3 or higher (PROFINET IO only)	X (PROFINET IO only)
1 x 8-channel with value status	DQ 8x230VAC/2A ST QI		

S7-1500/ET 200MP - Digital output module DQ 16x230VAC/1A ST Triac

Equipment Manual DQ 16x230VAC/1A ST Triac (6ES7522-5FH00-0AB0), Edition 12/2021,
Address space section

Table 3-2 Configuration options

Configuration	Short designation / module name in the GSD file	Configuration software, e.g., STEP 7	
		Integrated in hardware catalog STEP 7 V13, SP1 or higher with HSP 0119	GSD file in STEP 7 V12 or higher or STEP 7 V5.5 SP3 or higher
1 x 16-channel without value status	DQ 16x230VAC/1A ST	X	X
2 x 8-channel without value status	DQ 16x230VAC/1A ST S	X (PROFINET IO only)	X (PROFINET IO only)
1 x 16-channel with value status for module-internal Shared Output with up to 4 submodules	DQ 16x230VAC/1A ST MSO		
1 x 16-channel with value status	DQ 16x230VAC/1A ST QI		
2 x 8-channel with value status	DQ 16x230VAC/1A ST S QI		

S7-1500/ET 200MP - Digital output module DQ 8x24VDC/2A HF

Equipment Manual DQ 8x24VDC/2A HF (6ES7522-1BF00-0AB0), Edition 06/2018

Minimum pulse duration

The minimum pulse duration of 300 µs applies for a duty cycle > 0.

The following table shows the duty cycles and the values output for a duty cycle of 2 ms:

Duty cycle as a %	Pulse duration
0	0 µs
0.1	300 µs
10.0	300 µs
15.0	300 µs
15.1	302 µs
20.0	400 µs

Example for energy savings by reducing the holding current

The `PWM_Out` tag applies for the outputs QB x+2/3 for Channel 0 or QB x+4/5 for Channel 4.

The following special points apply for the duty cycle and the minimum pulse duration:

- At a duty cycle of 0 no PWM output is active
- At an on-load factor < 300 µs no signal is output

Address space operating mode pulse width modulation

If you have set "Pulse width modulation" mode for Channel 0 and Channel 4 in the operating mode parameter, Bit 0 and Bit 4 are not evaluated. Actuation of the PWM channels is effected via the duty cycle (QB x+2/3 and/or QB x+4/5).

Assignment in the process image output (PIQ)

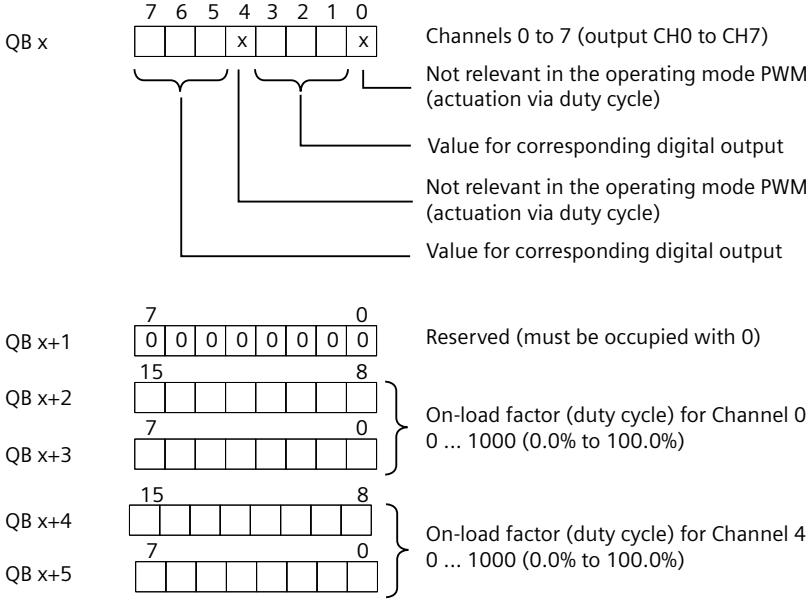


Figure 3-4 Allocation in the process image output

3.1 Addition to the "Industrial cybersecurity" section

The following paragraph supplements the contents in the system manuals, section "Industrial cybersecurity", Edition 11/2025.

Secure operation of CPUs, syslog messages

If you want S7-1500 CPUs to transfer their syslog messages to a syslog server, configure which protocol (TLS or UDP) the CPU should use for the transfer.

Always use a TLS protocol in productive operation for the transfer. TLS ensures that all syslog messages from the CPU are securely transferred to the syslog server.

For commissioning and testing scenarios, a UDP can also be used for the transfer. Transfer via a UDP connection is not secure. A UDP does not even guarantee transferring of all syslog messages to the configured syslog server.

3.2 Supplements to the "Protection" section

The following paragraphs supplement the contents of the system manuals in the "Protection" section, Edition 11/2025.

Overview of the protective functions

The link to the document "Security with SIMATIC S7 controllers" in the section is no longer valid.

Recommendation: Several protective functions for increased protection of your system

Use as many of the listed protective functions as possible. These protective functions protect your investments against unauthorized access and manipulation and thus contribute to reliable system availability.

Central user management

Useful information on central user management and access control

Additional information on the warning "Decoupling the user management from the CPU involves risks":
Changes to central users do not affect the existing connection to the CPU at the time the changes are made. In addition to the listed changes, the changes also include deleting a user from the project.

Configuring central user management in the editor for users and roles

Recommendation: It is best to create user groups in your project rather than individual central users.
If you use user groups, the user data only has to be maintained on the connected UMC server. In the case of individual central users, the user data must be maintained in the project in addition and loaded onto the CPU.

3.3 Backing up and restoring the CPU configuration

The following paragraphs supplement the contents in the system manual in the section Commissioning, Backing up and restoring the CPU configuration, Edition 11/2025.

Recommendation: Use password protection for confidential configuration data

Protect the configuration data of a CPU by assigning the password for the protection of confidential configuration data. You thus achieve the best possible protection for the configuration data of a CPU. If possible, manage the password in a password manager.

Also protect the backup files of a CPU against unauthorized access to prevent the manipulation of the backup files.

Information regarding compatibility

In order to use all backup possibilities, use a CPU as of the configured FW version V4.1 and STEP 7 as of V21. Backup files which were generated by a CPU with a configured FW version V4.1 can only be restored on CPUs with a FW version as of V4.1.

Rules for backup and restore

If a user cancels the operation or the CPU cancels the operation due to an error, only the user who canceled the operation can resume it. The intermediate steps "Reset to factory settings" and "Start a new backup/restore" are required for this purpose. The intermediate step "Download from STEP 7" is not required.

3.4 Supplements to the "CPU display" section

The following paragraphs supplement the contents of the system manuals in the display of the CPU section, Edition 11/2026.

Advantages

You can save an image (backup copy) of the CPU data to the SIMATIC Memory Card of the CPU locally via the CPU display. Saving an image affects the memory capacity remaining on the SIMATIC Memory Card for the user program.
Consequence: The remaining memory capacity may no longer be sufficient for data that the user program writes to the SIMATIC Memory Card.

Recommendation: Plan in advance for a SIMATIC Memory Card with sufficient memory.

Password protection for the display

The password for the display forms part of the S7-1500 CPU security concept. If possible, manage the password in a password manager. When entering the password, make sure that nobody is able to observe you or read the password.

3.5 Other OPC UA functions

Maximum number of simultaneously running jobs for asynchronous instructions for OPC UA

The following table supplements the contents in the section Basics of program editing, Asynchronous instructions, Edition 11/2025

The maximum number of simultaneously running jobs for asynchronous instructions for OPC UA can be found in the respective Equipment Manual in the section Technical specifications section or on the Internet (https://sieportal.siemens.com/su/blVMV).

In the OPC UA instructions for session management or for data access, you require the following values from the technical specifications to be able to calculate the maximum number of jobs running simultaneously:

- Number of connections, max.
- Number of simultaneous calls of the client instructions for session management, per connection, max.
- Number of simultaneous calls of the client instructions for data access, per connection, max.

In addition to the OPC UA instructions, the following table shows the use and calculation of the maximum number of jobs running simultaneously.

OPC UA instruction	Usage	Calculation
OPC_UA_Connect	Session management	"Number of connections, max." multiplied by "Number of simultaneous calls of the client instructions for session management, per connection, max."
OPC_UA_NamespaceGetIndexList		
OPC_UA_NodeGetHandleList		
OPC_UA_MethodGetHandleList		
OPC_UA_TranslatePathList		
OPC_UA_NodeReleaseHandleList		
OPC_UA_MethodReleaseHandleLis		
OPC_UA_Disconnect		
OPC_UA_ConnectionGetStatus		
OPC_UA_ReadList	Data access	"Number of connections, max." multiplied by "Number of simultaneous calls of the client instructions for data access, per connection, max."
OPC_UA_WriteList		
OPC_UA_MethodCall		The value can be taken directly from the technical specifications.

Communication Function Manual, Edition 11/2025

OPC UA communication, Security at OPC UA, Role-based security in OPC UA

A role in the project that you want to use for OPC UA user roles cannot be named "- - -". Otherwise, it will not be possible to map the role in the project to OPC UA user roles. The role is loaded onto the CPU, but has no authorizations.

Communication Function Manual, Edition 11/2025

OPC UA server: Change in behavior when using multi-dimensional arrays in a UDT

From firmware version V2.9.4 onwards, S7-1500 CPUs code multi-dimensional arrays within structures according to OPC UA specification V1.04.
CPUs with older firmware versions code the corresponding structures in another form. If you have used multi-dimensional arrays in structures for CPUs with older firmware versions and are upgrading to the latest firmware version, then you must modify your client programs accordingly.

3.6 Supplements on the "Technical specifications" section

Functional expansion for security

You can update the following modules from the listed functional version (FS) to FW version V3.0.x. You cannot update modules with an older FS to this FW version.

The module supports the following functions with this FW version:

- Signed firmware update
- Data integrity

If the current technical specifications in SiePortal lists the specified FW version, then you can order the module with the FS and the FW version.

Article number	Designation and link to the technical specifications	Functional version
6ES7521-1FH00-0AA0	DI 16x230VAC BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-1FH00-0AA0/td?dl=en)	as of FS 06
6ES7521-7EH00-0AB0	DI 16x24...125VUC HF (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-7EH00-0AB0/td?dl=en)	as of FS 06
6ES7523-1BL00-0AA0	DI 16x24VDC / DQ 16x24VDC/0.5A BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7523-1BL00-0AA0/td?dl=en)	as of FS 06
6ES7521-1BH10-0AA0	DI 16x24VDC BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-1BH10-0AA0/td?dl=en)	as of FS 07
6ES7521-1BH00-0AB0	DI 16x24VDC HF (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-1BH00-0AB0/td?dl=en)	as of FS 10
6ES7521-7BH00-0AB0	DI 16x24VDC HS (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-7BH00-0AB0/td?dl=en)	as of FS 03
6ES7521-7TH00-0AB0	DI 16xNAMUR HF (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-7TH00-0AB0/td?dl=en)	as of FS 03
6ES7521-1BL10-0AA0	DI 32x24VDC BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-1BL10-0AA0/td?dl=en)	as of FS 06
6ES7521-1BL00-0AB0	DI 32x24VDC HF (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-1BL00-0AB0/td?dl=en)	as of FS 08
6ES7523-1BP50-0AA0	DI 32x24VDC SNK/SRC / DQ 32x24VDC/0.3A SNK BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7523-1BP50-0AA0/td?dl=en)	as of FS 03
6ES7521-1BP00-0AA0	DI 64x24VDC SNK/SRC BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7521-1BP00-0AA0/td?dl=en)	as of FS 03
6ES7522-5FH00-0AB0	DQ 16x230VAC/1A ST (Triac) (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-5FH00-0AB0/td?dl=en)	as of FS 05

Article number	Designation and link to the technical specifications	Functional version
6ES7522-5HH00-0AB0	DQ 16x230VAC/2A ST (Relays) (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-5HH00-0AB0/td?dl=en)	as of FS 05
6ES7522-1BH10-0AA0	DQ 16x24VDC/0.5A BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-1BH10-0AA0/td?dl=en)	as of FS 06
6ES7522-1BH01-0AB0	DQ 16x24VDC/0.5A HF (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-1BH01-0AB0/td?dl=en)	as of FS 06
6ES7522-1BL10-0AA0	DQ 32x24VDC/0.5A BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-1BL10-0AA0/td?dl=en)	as of FS 06
6ES7522-1BL01-0AB0	DQ 32x24VDC/0.5A HF (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-1BL01-0AB0/td?dl=en)	as of FS 06
6ES7522-1BP00-0AA0	DQ 64x24VDC/0.3A BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-1BP00-0AA0/td?dl=en)	as of FS 03
6ES7522-1BP50-0AA0	DQ 64x24VDC/0.3A SNK BA (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-1BP50-0AA0/td?dl=en)	as of FS 03
6ES7522-5FF00-0AB0	DQ 8x230VAC/2A ST (Triac) (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-5FF00-0AB0/td?dl=en)	as of FS 06
6ES7522-5HF00-0AB0	DQ 8x230VAC/5A ST (Relays) (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-5HF00-0AB0/td?dl=en)	as of FS 06
6ES7522-5EH00-0AB0	DQ 16x24...48VUC/125VDC/0.5A ST (https://support.industry.siemens.com/cs/de/en/pv/6ES7522-5EH00-0AB0/td?dl=en)	as of FS 07

Amendments to SIMATIC S7-1500R/H documentation

4

Effects during the system state SYNCUP

System Manual S7-1500R/H redundant system, Edition 11/2025

Section 12.4.6 "SYNCUP system state" under "Effects during the system state SYNCUP"

The following statement applies contrary to the information provided in the "Data logging, recipes, and user files" process:

During SYNCUP, the \DataLogs, \Recipes, and \UserFiles folders on the primary CPU are deleted. This means that neither read nor write access is possible.

Prerequisite for CiR (Configuration in Run): STEP 7 V21 Update 1 and firmware version V4.1.2

System Manual S7-1500R/H redundant system, Edition 11/2025

Sections Maintenance, System modification during runtime (CiR), Requirements

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NOTE

If you use CiR with S7-1500R/H, at least STEP 7 V21 Update 1 and a firmware version greater than V4.1.0 is required for the R/H CPUs.
Perform updates for STEP 7 and the R/H CPUs!

CiR with S1 devices of the ET 200S/ET 200M type or GSD devices that only support IEC V2.2 LLDP mode

System Manual S7-1500R/H redundant system, Edition 11/2025

Sections Maintenance, System modification during runtime (CiR), Restrictions/Special features

If you plan to add S1 devices of the type ET 200S/ET 200M with CiR, you need to activate the "Use IEC V2.2 LLDP mode" parameter beforehand. To do this, select the corresponding check box in the properties of the PROFINET interface of the R/H CPU in the area "PROFINET interface > Advanced options > Interface options". The same applies to GSD devices that only support IEC V2.2 LLDP mode.

The parameter can only be activated in the STOP system state of the R/H system. Activation with CiR is not possible.

Display of the source address in multicast packages

Communication Function Manual, Edition 11/2025

If an S7-1500 R/H CPU sends UDP multicast messages via a system IP address, the device IP address of the CPU is entered as the source address in the multicast packages instead of the system IP address. Take this behavior into consideration for filters and firewalls.

In case of a reply to the multicast sender, use the system IP address as target.

Configure FTP or Secure FTP in the S7-1500R/H redundant system

Communication Function Manual, Edition 11/2025

The S7-1500R/H redundant system supports the use of CP 1543-1 communications processors as of FW version V3.1. If you use the CP 1543-1 communications processors on the S7-1500R/H redundant system, you can also set up communication via FTP or secure FTP.

You configure the FTP server functionality in the properties of the respective CP. In the FTP configuration of each CP, always assign the R/H CPU to mounting rail_0. Only this R/H CPU can be selected in the selection list. The same applies to CPs that are plugged onto mounting rail_1.

Configuring VPN on the S7-1500R/H redundant system

Communication Function Manual, Edition 11/2025

If you are using the CP 1543-1 communications processors on the S7-1500R/H redundant system, you can also set up communication over a VPN. You can configure a VPN in one of the following ways:

- Both CPs in the same slot of the primary and backup CPU are in the same VPN
- Each CP in the same slot of the primary and backup CPU is located in a specific VPN

Communication over a VPN is only possible via the physical interfaces of the CPs. The virtual interface W1 of the CPUs does not support communication over a VPN.

Using the firewall of the CPs

You also configure the access to the CPUs via the device and system IP address of the virtual interfaces W1 in the firewall settings of the CPs.

Supplements to the documentation on power supply modules PS

5

5.1 Supplements relating to the connection plug PS 25W 24VDC

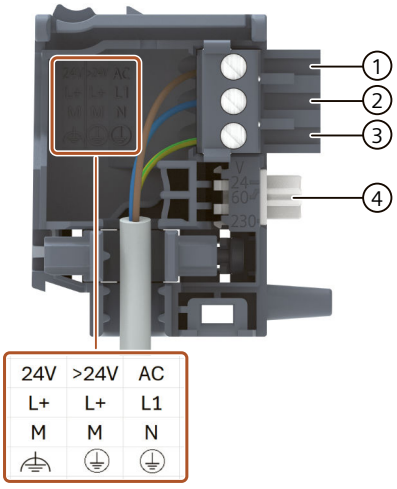
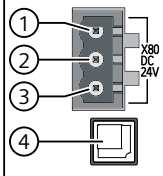
Equipment Manual PS 25W 24VDC (6ES7505-0KA00-0AB0), Edition 11/2020, section Wiring

The following paragraph supplements the Equipment Manual PS 25W 24VDC (6ES7505-0KA00-0AB0) and takes precedence over the Equipment Manual PS 25W 24VDC (6ES7505-0KA00-0AB0).

Connection plug

The connection plug for the power supply is plugged in when the power supply module ships from the factory.

The following figure shows the assignment of the connection plug:

Connector	PS connection	Name
		① L ② M ③ Functional earthing conductor ④ Coding element

5.2 Supplements relating to the connection plug PS 60W 230VAC

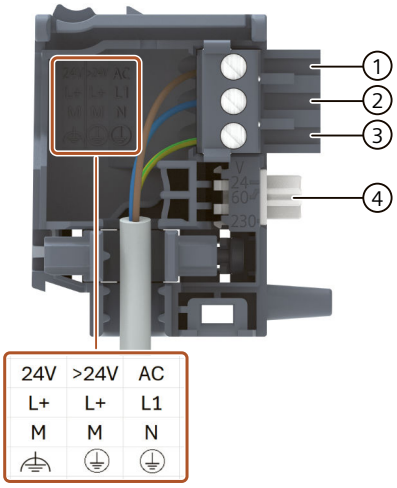
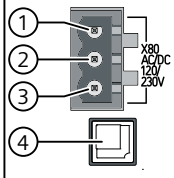
Equipment Manual PS 60W 230VAC (6ES7507-0RA00-0AB0), Edition 11/2020, section Wiring

The following paragraph supplements the Equipment Manual PS 60W 230VAC (6ES7507-0RA00-0AB0) and takes precedence over the Equipment Manual PS 60W 230VAC (6ES7507-0RA00-0AB0).

Connection plug

The connection plug for the power supply is plugged in when the power supply module ships from the factory.

The following figure shows the assignment of the connection plug:

Connector	PS connection	Name
		① L ② N ③ Protective conductor ④ Coding element