

SIEMENS



Product overview for SIMATIC S7-1500

TIA Selection Tool Web



Advanced Controller SIMATIC S7-1500

Our fastest controller for automation

With the SIMATIC S7-1500 controller, you can rely on maximum performance and built-in future-proofing. The modular controller enables you to implement the most demanding machine concepts and reliably accompanies you on your way through digital transformation.

The SIMATIC S7-1500 has a modular design and is scalable in its functionality. Various central processor units (CPU versions) are available, each in several performance classes. A wide variety of signal modules for input and output as well as technology modules for special technological functions such as counting and communication modules are available for central or distributed configurations as interfaces to the machine or plant. The SIMATIC S7-1500 is approved for IP20 degree of protection and is intended for installation in a control cabinet.

<https://www.siemens.com/s7-1500>

System overview

Efficient engineering

- The TIA Portal provides complete access to the entire digitized automation: digital planning, integrated engineering, transparent operation. Simulation tools shorten time-to-market, diagnostic and energy management functions increase productivity, and the link to the management level offers more flexibility and transparency.

Functional design

- The SIMATIC S7-1500 offers easy handling and maximum user-friendliness in many new details: integrated potential jumpers, shielding elements that can be mounted without tools, uniform front connectors, ergonomic terminal labeling. Easy expandability, individual assembly and upward compatibility offer the highest cost efficiency and investment security.

Highest performance

- With the SIMATIC S7-1500, you can achieve maximum performance and productivity in your manufacturing process thanks to the fast backplane bus with PROFINET performance, the shortest response times and a command processing time of up to 1 ns in the CPU. The PROFINET connection with deterministic time response ensures reproducibility and precision in the μ s range.

Integrated system diagnostics

- The integrated diagnostic functionality enables error messages to be visualized identically as plain text information in TIA Portal, on the HMI, on the Web server and on the CPU display based on a uniform display concept. The configuration and the message paths of the diagnostics are integrated into the system in a user-friendly manner. The trace function is supported on all CPUs.

Safety Integrated

- One system for standard and fail-safe applications: one controller, one communication and one engineering for standard and fail-safe automation. Safety Integrated stands for simple connection of PROFIsafe devices via PROFIBUS and PROFINET, and for data consistency between standard and fail-safe program parts. Mixed operation of fail-safe and standard I/O modules is supported.

Technology Integrated

- One system for standard and fail-safe applications: one controller, one communication and one engineering for standard and fail-safe automation. Safety Integrated stands for simple connection of PROFIsafe devices via PROFIBUS and PROFINET, and for data consistency between standard and fail-safe program parts. Mixed operation of fail-safe and standard I/O modules is supported.

Security Integrated

- The security concept of the SIMATIC S7-1500 includes measures ranging from authorization levels to block protection and communication integrity. Security Integrated protects your investments, prevents machine replication and contributes to high plant availability.

Five steps to the right controller:

Type of structure, system performance, programming, Motion Control, system architecture: Do you already know which functions and performance features your controller should have? Then our function check will take you directly to the right SIMATIC controller in five steps.

<https://www.siemens.com/controller>

Central processing units

Article number



Standard CPUs

CPU 1511-1PN, 150KB Program, 1MB Data	6ES7511-1AK02-0AB0
CPU 1511F-1PN, 225KB prog., 1MB data	6ES7511-1FK02-0AB0
CPU 1513-1 PN, 300KB Prog., 1,5MB Data	6ES7513-1AL02-0AB0
CPU 1513F-1 PN, 450KB Prog., 1,5MB data	6ES7513-1FL02-0AB0
CPU 1515-2 PN, 500KB Prog., 3MB Data	6ES7515-2AM02-0AB0
CPU 1515F-2 PN, 750KB Prog., 3MB Data	6ES7515-2FM02-0AB0
CPU 1516-3 PN/DP, 1MB Prog., 5MB Data	6ES7516-3AN02-0AB0
CPU 1516F-3 PN/DP, 1,5MB Prog, 5MB Data	6ES7516-3FN02-0AB0
CPU 1517-3 PN/DP, 2MB Prog./8MB Data	6ES7517-3AP00-0AB0
CPU 1517F-3 PN/DP, 3MB Prog., 8MB Data	6ES7517-3FP00-0AB0
CPU 1518-4 PN/DP, 6 MB Prog., 60MB Data	6ES7518-4AP00-0AB0
CPU 1518F-4 PN/DP, 9 MB Prog, 60MB Data	6ES7518-4FP00-0AB0
CPU 1518-4 PN/DP MFP + C/C++ RT + OPC UA	6ES7518-4AX00-1AC0
CPU 1518F-4 PN/DP MFP + C/C++ RT +OPC UA	6ES7518-4FX00-1AC0
SIPLUS S7-1500 CPU 1511-1 PN	6AG1511-1AK02-2AB0
SIPLUS S7-1500 CPU 1513-1 PN	6AG1513-1AL02-2AB0
SIPLUS S7-1500 CPU 1518-4 PN/DP MFP	6AG1518-4AX00-4AC0
SIPLUS S7-1500 CPU 1518-4 PN/DP	6AG1518-4AP00-4AB0
SIPLUS S7-1500 CPU 1518F-4 PN/DP	6AG1518-4FP00-4AB0
SIPLUS S7-1500 CPU 1511-1 PN	6AG1511-1AK02-7AB0
SIPLUS S7-1500 CPU 1511F-1 PN	6AG1511-1FK02-2AB0
SIPLUS S7-1500 CPU 1513-1 PN	6AG1513-1AL02-7AB0
SIPLUS S7-1500 CPU 1513F-1 PN	6AG1513-1FL02-2AB0
SIPLUS S7-1500 CPU 1515F-2 PN	6AG1515-2FM02-2AB0
SIPLUS S7-1500 CPU 1516-3 PN/DP	6AG1516-3AN02-2AB0
SIPLUS S7-1500 CPU 1516-3 PN/DP	6AG1516-3AN02-7AB0
SIPLUS S7-1500 CPU 1516F-3 PN/DP	6AG1516-3FN02-2AB0
SIPLUS S7-1500 CPU 1511-1 PN T1 RAIL	6AG2511-1AK02-1AB0
SIPLUS S7-1500 CPU 1511-1 PN TX RAIL	6AG2511-1AK02-4AB0
SIPLUS S7-1500 CPU 1515F-2 PN RAIL	6AG2515-2FM02-4AB0
SIPLUS S7-1500 CPU 1516-3 PN/DP RAIL	6AG2516-3AN02-4AB0
SIPLUS S7-1500 CPU 1516F-3 PN/DP RAIL	6AG2516-3FN02-2AB0
SIPLUS S7-1500 CPU 1516F-3 PN/DP RAIL	6AG2516-3FN02-4AB0

Compact CPUs

CPU 1511C-1 PN, 175 KB Prog, 1 MB Data	6ES7511-1CK01-0AB0
CPU 1512C-1 PN, 250 KB Prog, 1 MB Data	6ES7512-1CK01-0AB0

Technology CPUs

CPU 1511T-1PN, 225KB progr., 1MB data	6ES7511-1TK01-0AB0
CPU 1511TF-1PN, 225KB progr., 1MB data	6ES7511-1UK01-0AB0
CPU 1515T-2 PN, 750KB progr, 3MB data	6ES7515-2TM01-0AB0
CPU 1515TF-2 PN, 750KB progr, 3MB data	6ES7515-2UM01-0AB0
CPU 1516T-3 PN/DP, 1.5MB prog./5MB data	6ES7516-3TN00-0AB0
CPU 1516TF-3 PN/DP, 1.5MB prog./5MB data	6ES7516-3UN00-0AB0
CPU 1517T-3 PN/DP, 3MB prog./8MB data	6ES7517-3TP00-0AB0
CPU 1517TF-3 PN/DP, 3MB prog., 8MB data	6ES7517-3UP00-0AB0
CPU 1518T-4 PN/DP, 9MB Prog., 60MB data	6ES7518-4TP00-0AB0
CPU 1518TF-4 PN/DP, 9MB Prog, 60MB data	6ES7518-4UP00-0AB0

Fault-tolerant and redundant CPUs

CPU 1513R-1 PN, 300KB program/1,5MB data	6ES7513-1RL00-0AB0
CPU 1515R-2 PN, 500KB program/ 3MB data	6ES7515-2RM00-0AB0
CPU 1517H-3 PN, 2MB program/8MB data	6ES7517-3HP00-0AB0
CPU 1518HF-4 PN, 9MB program/60MB data	6ES7518-4JP00-0AB0
SIPLUS S7-1500 CPU 1515R-2 PN	6AG1515-2RM00-7AB0
SIPLUS S7-1500 CPU 1517H-3 PN	6AG1517-3HP00-4AB0

 : Safety-related component

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Central processing units

Article number

SIPLUS S7-1500 CPU 1515R-2 PN TX RAIL	6AG2515-2RM00-4AB0
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Digital modules

Article number



Digital input

S7-1500, DI 32x24VDC HF	6ES7521-1BL00-0AB0
S7-1500, DI 16x24VDC HF	6ES7521-1BH00-0AB0
S7-1500, DI 16x230VAC BA	6ES7521-1FH00-0AA0
S7-1500, DI 16x24VDC SRC BA	6ES7521-1BH50-0AA0
S7-1500, DI 16x24VDC BA	6ES7521-1BH10-0AA0
S7-1500, DI 32x24VDC BA	6ES7521-1BL10-0AA0
S7-1500, DI 16 x 24...125V UC HF	6ES7521-7EH00-0AB0
S7-1500, DI 16XNAMUR HF	6ES7521-7TH00-0AB0
S7-1500, DI 64x24VDC SNK/SRC BA	6ES7521-1BP00-0AA0
SIPLUS S7-1500 DI 32x24VDC HF	6AG1521-1BL00-7AB0
SIPLUS S7-1500 DI 16x230VAC BA	6AG1521-1FH00-7AA0
SIPLUS S7-1500 DI 16x24VDC HF	6AG1521-1BH00-7AB0
SIPLUS S7-1500 DI 16x24VDC SRC BA	6AG1521-1BH50-7AA0
SIPLUS S7-1500 DI 48VUC/125VDC HF	6AG1521-7EH00-7AB0
SIPLUS S7-1500 DI 16x24VDC HF TX RAIL	6AG2521-1BH00-4AB0
SIPLUS S7-1500 DI 16x110VDC HF TX RAIL	6AG2521-7EH00-4AB0

Digital output

S7-1500, DQ 32x24VDC/0.5A HF	6ES7522-1BL01-0AB0
S7-1500, DQ 16x24V DC/0.5A HF	6ES7522-1BH01-0AB0
S7-1500, DQ 8x24VDC/2A HF	6ES7522-1BF00-0AB0
S7-1500, DQ 8x230VAC/2A ST (Triac)	6ES7522-5FF00-0AB0
S7-1500, DQ 8x230VAC/5A ST (Relay)	6ES7522-5HF00-0AB0
S7-1500, DQ 16x230VAC/1A ST (Triac)	6ES7522-5FH00-0AB0
S7-1500, DQ 16x230VAC/2A ST (Relay)	6ES7522-5HH00-0AB0
S7-1500, DQ 16x24VDC/0.5A BA	6ES7522-1BH10-0AA0
S7-1500, DQ 32x24VDC/0.5A BA	6ES7522-1BL10-0AA0
S7-1500, DQ 16x24...48VUC/125VDC/0.5A ST	6ES7522-5EH00-0AB0
S7-1500, DQ 64x24VDC/0.3A BA	6ES7522-1BP00-0AA0
S7-1500, DQ 64x24VDC/0.3A SNK BA	6ES7522-1BP50-0AA0
SIPLUS S7-1500 DQ 8x230VAC/5A ST (RELAY)	6AG1522-5HF00-2AB0
SIPLUS S7-1500 DQ 8x24VDC/2A HF	6AG1522-1BF00-7AB0
SIPLUS S7-1500 DQ 8x230VAC/2A ST (TRIAC)	6AG1522-5FF00-7AB0
SIPLUS S7-1500 16DQ 230VAC 1A ST TRIAC	6AG1522-5FH00-7AB0
SIPLUS S7-1500 16DQ 230VAC 2A RLY	6AG1522-5HH00-7AB0
SIPLUS S7-1500 DQ 16x24VDC/0.5A HF	6AG1522-1BH01-7AB0
SIPLUS S7-1500 DQ 16x48VUC/125VDC ST	6AG1522-5EH00-7AB0
SIPLUS S7-1500 DQ 32x24VDC/0.5A HF	6AG1522-1BL01-7AB0
SIPLUS S7-1500 DQ 16x24VDC HF TX RAIL	6AG2522-1BH01-4AB0
SIPLUS S7-1500 DQ 16x110VDC ST TX RAIL	6AG2522-5EH00-4AB0
SIPLUS S7-1500 DQ 8x230VAC ST 5A T1 RAIL	6AG2522-5HF00-1AB0

Digital inputs/outputs

S7-1500, DI 16x24VDC/DQ 16x24VDC/0.5A BA	6ES7523-1BL00-0AA0
S7-1500, DI 32x24VDC/DQ 32x24VDC/0.3A BA	6ES7523-1BP50-0AA0

Fail-safe digital modules

ET 200MP, F-DI 16x24VDC	6ES7526-1BH00-0AB0
ET 200MP, F-DQ 8x24VDC 2A PPM	6ES7526-2BF00-0AB0
SIPLUS S7-1500 F-DI 16x24VDC	6AG1526-1BH00-2AB0
SIPLUS S7-1500 F-DQ 8x24VDC/2A	6AG1526-2BF00-2AB0

 : Safety-related component

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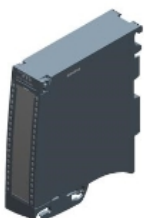
Digital modules

Article number

SIPLUS S7-1500 F-DI 16x24VDC T1 RAIL	6AG2526-1BH00-1AB0
SIPLUS S7-1500 F-DQ 8x24VDC 2A T1 RAIL	6AG2526-2BF00-1AB0

Analog modules

Article number



Analog input

S7-1500, AI 8xU/I/R/RTD BA	6ES7531-7QF00-0AB0
S7-1500, AI 8xU/I/RTD/TC ST	6ES7531-7KF00-0AB0
S7-1500, AI 8xU/I HS	6ES7531-7NF10-0AB0
S7-1500, AI 8 X U/R/RTD/TC HF	6ES7531-7PF00-0AB0
S7-1500, AI 8xU/I HF	6ES7531-7NF00-0AB0
S7-1500, AI 4xU/I/RTD/TC ST	6ES7531-7QD00-0AB0
S7-1500, AI 16xU BA	6ES7531-7LH00-0AB0
S7-1500, AI 16xI BA	6ES7531-7MH00-0AB0
SIPLUS S7-1500 AI 8XU/I HS	6AG1531-7NF10-7AB0
SIPLUS S7-1500 AI 8XU/I/RTD/TC ST	6AG1531-7KF00-7AB0
SIPLUS S7-1500 AI 8XU/I HF	6AG1531-7NF00-7AB0
SIPLUS S7-1500 AI 8 X U/R/RTD/TC HF	6AG1531-7PF00-4AB0
SIPLUS S7-1500 AI 8xU/I/RTD/TC TX RAIL	6AG2531-7KF00-4AB0
SIPLUS S7-1500 AI 8xU/I HS TX RAIL	6AG2531-7NF10-4AB0

Analog output

S7-1500, AQ 8xU/I HS	6ES7532-5HF00-0AB0
S7-1500, AQ 4xU/I ST	6ES7532-5HD00-0AB0
S7-1500, AQ 4xU/I HF	6ES7532-5ND00-0AB0
S7-1500, AQ 2xU/I ST	6ES7532-5NB00-0AB0
SIPLUS S7-1500 AQ 4XU/I ST	6AG1532-5HD00-7AB0
SIPLUS S7-1500 AQ 8XU/I HS	6AG1532-5HF00-7AB0
SIPLUS S7-1500 AQ 4xU/I ST TX RAIL	6AG2532-5HD00-4AB0

Analog inputs/outputs

S7-1500, AI 4x U/I/RTD/TC/AQ 2x U/I ST	6ES7534-7QE00-0AB0
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Communication modules

Article number



S7-1500, CM PTP RS232 BA	6ES7540-1AD00-0AA0
S7-1500, CM PTP RS422/485 BA	6ES7540-1AB00-0AA0
S7-1500, CM PTP RS232 HF	6ES7541-1AD00-0AB0
S7-1500, CM PTP RS422/485 HF	6ES7541-1AB00-0AB0
Communication module CM 1542-5	6GK7542-5DX00-0XE0
Communication module CM 1542-1	6GK7542-1AX00-0XE0
S7-1500, CM 8xIO-Link	6ES7547-1JF00-0AB0
Communication processor CP 1543-1	6GK7543-1AX00-0XE0
Communication processor CP 1542-5	6GK7542-5FX00-0XE0
Communication processor CP 1545-1	6GK7545-1GX00-0XE0

SIPLUS

SIPLUS S7-1500 CM PTP RS232 BA	6AG1540-1AD00-7AA0
SIPLUS S7-1500 CM PTP RS232 HF	6AG1541-1AD00-7AB0
SIPLUS S7-1500 CM PTP RS422/485 BA	6AG1540-1AB00-7AA0
SIPLUS S7-1500 CM PTP RS422/485 HF	6AG1541-1AB00-7AB0
SIPLUS S7-1500 CM 1542-5	6AG1542-5DX00-7XE0
SIPLUS NET CP 1543-1	6AG1543-1AX00-2XE0
SIPLUS S7-1500 CM PTP RS422/485 TX RAIL	6AG2541-1AB00-4AB0
SIPLUS S7-1500 CM PTP RS232 HF TX RAIL	6AG2541-1AD00-4AB0

 : Safety-related component

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Technology modules



	Article number
S7-1500, TM Posinput 2	6ES7551-1AB00-0AB0
S7-1500, TM Count 2x24V	6ES7550-1AA01-0AB0
S7-1500, TM Timer DIDQ 16x24V	6ES7552-1AA00-0AB0
S7-1500, TM PTO4	6ES7553-1AA00-0AB0
SIWAREX WP521 ST WEIGHING ELECTRONIC	7MH4980-1AA01
SIWAREX WP522 ST WEIGHING ELECTRONIC	7MH4980-2AA01
SIPLUS	
SIPLUS S7-1500 TM POSINPUT 2	6AG1551-1AB00-7AB0
SIPLUS S7-1500 TM COUNT 2X24V	6AG1550-1AA01-7AB0

System power supplies



	Article number
S7-1500, PS 25W 24V DC	6ES7505-0KA00-0AB0
S7-1500, PS 60W 24/48/60V DC	6ES7505-0RA00-0AB0
S7-1500, PS 60W 24/48/60V DC HF	6ES7505-0RB00-0AB0
S7-1500, PS 60W 120/230V AC/DC	6ES7507-0RA00-0AB0
SIPLUS	
SIPLUS S7-1500 PS 60W 24/48/60V DC	6AG1505-0RA00-7AB0
SIPLUS S7-1500 PS 60W 120/230V AC/DC	6AG1507-0RA00-7AB0
SIPLUS S7-1500 PS 25W 24V DC	6AG1505-0KA00-7AB0

Load current supplies



	Article number
SIMATIC PM1507/1AC/24VDC/3A	6EP1332-4BA00
SIMATIC PM1507/1AC/24VDC/8A	6EP1333-4BA00
SIPLUS	
SIPLUS S7-1500 PM 1507 24V/3A	6AG1332-4BA00-7AA0
SIPLUS S7-1500 PM 1507 24V/8A	6AG1333-4BA00-7AA0

Accessories



	Article number
Memory card	
SIMATIC S7 memory card, 4 MB	6ES7954-8LC03-0AA0
SIMATIC S7 Memory Card, 12 MB	6ES7954-8LE03-0AA0
SIMATIC S7 Memory Card, 24 MB	6ES7954-8LF03-0AA0
SIMATIC S7 Memory Card, 256 MB	6ES7954-8LL03-0AA0
SIMATIC S7 Memory Card, 2 GB	6ES7954-8LP02-0AA0
SIMATIC S7 Memory Card, 32 GB	6ES7954-8LT03-0AA0
SIPLUS RIC memory cards	
SIPLUS RIC for SIMATIC S7-15xx SMC 12MB	6AG6003-7CF00-0LE0
SIPLUS RIC for SIMATIC S7-15xx SMC 24MB	6AG6003-7CF00-0LF0
SIPLUS RIC for SIMATIC S7-15xx SMC 256MB	6AG6003-7CF00-0LL0
SIPLUS RIC for SIMATIC S7-15xx SMC 2GB	6AG6003-7CF00-0LP0
Front connector	
Frontconnector Screw Type (35mm Mod.)	6ES7592-1AM00-0XB0

 : Safety-related component

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Accessories

	Article number
Frontconnector Push-in (35mm Mod.)	6ES7592-1BM00-0XB0
Frontconnector Push-in (25mm Mod.)	6ES7592-1BM00-0XA0
Jumpers (35mm Mod.)	6ES7592-3AA00-0AA0
STEP7 Software & SUS	
CPU display	
Display for CPU 1511/1513	6ES7591-1AA00-0AA0
Display for CPU 1511(F)/1512C/1513(F)	6ES7591-1AA01-0AA0
Display for CPU 1515/1516/1517/1518	6ES7591-1BA00-0AA0
Display for CPU 1515/1516/1517/1518	6ES7591-1BA01-0AA0
SIPLUS S7-1500 FRONTKLAPPE V2 CPU 35MM	6AG1591-1AA01-2AA0
SIPLUS S7-1500 FRONTKLAPPE V2 CPU 70MM	6AG1591-1BA01-2AA0
Front door	
Universal Front Door S7-1500 IO (35mm)	6ES7528-0AA00-7AA0
Universal Front Door S7-1500 IO(25mm)	6ES7528-0AA00-0AA0
Universal Front Door S7-1500 PS	6ES7528-0AA60-7AA0
Universal Front Door S7-1500 PS/CP	6ES7528-0AA80-7AA0
Universal Front Door S7-1500 F-IO	6ES7528-0AA10-7AA0
Labeling sheets	
Labeling Sheets S7-1500, AL grey	6ES7592-2AX00-0AA0
Labeling Sheets S7-1500, AL grey	6ES7592-1AX00-0AA0
Labeling Sheets S7-1500, yellow	6ES7592-2CX00-0AA0
Miscellaneous	
Grounding Element (20pcs.)	6ES7590-5AA00-0AA0
U-Type-Connector S7-1500 (Spare Part)	6ES7590-0AA00-0AA0
Shielding Set f. S7-1500 25mm Modules	6ES7590-5CA10-0XA0
Shielding Set f. S7-1500 35mm Modules	6ES7590-5CA00-0AA0
Connector Plug for Power Supply (PS/PM)	6ES7590-8AA00-0AA0
Shielding Terminal S7-1500 Periphery	6ES7590-5BA00-0AA0
Repeater RS485 f. PROFIBUS/MPI	6ES7972-0AA02-0XA0
Diagnostic repeater f. PROFIBUS-DP,	6ES7972-0AB01-0XA0
ET 200MP, 5 E-coding Elements Type F	6ES7592-6EF00-1AA0
SIPLUS S7-1500 U-Verbinder	6AG1590-0AA00-7AA0
SIPLUS S7-1500 E-CODING ELEMENTS TYPE F	6AG1592-6EF00-2AA0
SIPLUS DP RS485-Repeater	6AG1972-0AA02-7XA0
SIPLUS DP Diagnose-Repeater	6AG1972-0AB01-4XA0

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