



SIEMENS



Product
range
overview

SIMATIC S7-1500 plus TIA Portal

Power + Efficiency

The ultimate plus in automation



Intuitive, efficient, proven –
TIA Portal redefines engineering

Answers for industry.



power

Your plus of power:

- + Outstanding system performance for shortest response times and highest quality of control
- + Technology Integrated for perfect integration of drives through motion control functionalities and PROFIdrive
- + Security Integrated – consistently incorporated for highest investment protection



Totally Integrated Automation Portal – the common engineering framework

Software packages*



| | |
|------------------------------------|--------------------|
| SIMATIC STEP 7 PROFESSIONAL V12 | 6ES7822-1AA02-0YA5 |
| SIMATIC WinCC COMFORT V12 | 6AV2101-0AA02-0AA |
| SIMATIC STEP 7 SAFETY ADVANCED V12 | 6ES7833-1FA12-0YA5 |
| SINAMICS STARTDRIVE V12 | 6SL3072-4CA02-1XG0 |

* In the next quarter the software packages are planned in the new version V13.

Starter Kit

Starter Kit



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|--|--------------------|
| Starter Kit SIMATIC S7-1500 Contains: CPU 1511-1 PN, 4 MB memory card, digital input 16 DI, digital output 16 DO, mounting rail, front connector, STEP 7 Professional V12 (365 days license), power supply PM 70 W 120/230 V AC, standard Ethernet CAT 5-cable (2 m), screwdriver, documentation | 6ES7511-1AK00-4YB5 |
|--|--------------------|

Communication

PtP



| | |
|----------------------|--------------------|
| CM PtP, RS232 BA | 6ES7540-1AD00-0AA0 |
| CM PtP, RS232 HF | 6ES7541-1AD00-0AB0 |
| CM PtP, RS422/485 BA | 6ES7540-1AB00-0AA0 |
| CM PtP, RS422/485 HF | 6ES7541-1AB00-0AB0 |

Communication modules for point-to-point or multi-point communication with the protocols Freeport, 3964(R), Modbus RTU or USS. Transmission rates up to 115.2 kBit/s are supported.

PROFIBUS



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|---|--------------------|
| CM 1542-5, PB DP master (PROFIBUS) The communication module CM 1542-5 extends the SIMATIC S7-1500 control with a PROFIBUS connection for communication with secondary PROFIBUS devices in bandwidths of 9.6 kbit/s to 12 Mbit/s. The CM 1542-5 takes over all communication tasks and offloads the CPU. | 6GK7542-5DX00-0XE0 |
| CP 1542-5 communications processor (PROFIBUS) The CP 1542-5 communications processor is a cost-efficient PROFIBUS module for expanding SIMATIC S7-1500s without an integrated PROFIBUS interface. It is especially suited for the integration of smaller PROFIBUS networks. | 6GK7542-5FX00-0XE0 |

Ethernet



| | |
|--|--------------------|
| CP 1543-1, Ethernet security | 6GK7543-1AX00-0XE0 |
| CM 1542-1, PROFINET communication module | 6GK7542-1AX00-0EX0 |



Central systems

CPUs



| | |
|-------------------|--------------------|
| CPU 1511-1 PN | 6ES7511-1AK00-0AB0 |
| CPU 1513-1 PN | 6ES7513-1AL00-0AB0 |
| CPU 1516-3 PN/DP | 6ES7516-3AN00-0AB0 |
| CPU 1518-4 PN/DP | 6ES7518-4AP00-0AB0 |
| CPU 1515-2 PN | 6ES7515-2AM00-0AB0 |
| CPU 1516F-3 PN/DP | 6ES7516-3FN00-0AB0 |
| CPU 1518F-4 PN/DP | 6ES7518-4FP00-0AB0 |

Distributed systems

ET 200MP interface modules



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|----------------|--------------------|
| IM 155-5 PN ST | 6ES7155-5AA00-0AB0 |
| IM 155-5 DP ST | 6ES7155-5BA00-0AB0 |

Signaling modules

IO modules



| | |
|---------------------------------|--------------------|
| DI 16x24 V DC HF | 6ES7521-1BH00-0AB0 |
| DI 32x24 V DC HF | 6ES7521-1BL00-0AB0 |
| DI 16x24 V DC SRC BA | 6ES7521-1BH50-0AA0 |
| DI 16x230 V AC BA | 6ES7521-1FH00-0AA0 |
| DI 16x24 V DC BA | 6ES7521-1BH10-0AA0 |
| DI 32x24 V DC BA | 6ES7521-1BL10-0AA0 |
| DQ 16x24 V DC/0.5 A ST | 6ES7522-1BH00-0AB0 |
| DQ 32x24 V DC/0.5 A ST | 6ES7522-1BL00-0AB0 |
| DQ 8x24 V DC/2 A HF | 6ES7522-1BF00-0AB0 |
| DQ 8x230 V AC/2 A ST | 6ES7522-5FF00-0AB0 |
| DQ 8x230 V AC/5 A ST | 6ES7522-5HF00-0AB0 |
| DQ 16x24 V DC/0.5 A BA | 6ES7522-1BH10-0AA0 |
| DQ 32x24 V DC/0.5 A BA | 6ES7522-1BL10-0AA0 |
| DII/DQ 16x24 V DC/16x24 V DC BA | 6ES7523-1BL00-0AA0 |
| AI 8xU/I/RTD/TC ST | 6ES7531-7KF00-0AB0 |
| AI 8xU/I HS | 6ES7531-7NF10-0AB0 |
| AQ 4xU/I ST | 6ES7532-5HD00-0AB0 |
| AQ 8xU/I HS | 6ES7532-5HF00-0AB0 |



Technology modules

Technology modules

| | |
|-----------------|--------------------|
| TM Count 2x24 V | 6ES7550-1AA00-0AB0 |
| TM PosInput2 | 6ES7551-1AB00-0AB0 |

Modules for counting up to 200kHz/1MHz, measuring of frequency, period duration or speed, position input for incremental or absolute encoders.



Accessories and spare parts

Accessories

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|---|--------------------|
| Mounting rail, 160 mm (with drill holes) | 6ES7590-1AB60-0AA0 |
| Mounting rail, 482 mm (with drill holes) | 6ES7590-1AE80-0AA0 |
| Mounting rail, 530 mm (with drill holes) | 6ES7590-1AF30-0AA0 |
| Mounting rail, 830 mm (with drill holes) | 6ES7590-1AJ30-0AA0 |
| Mounting rail, 2000 mm (without drill holes) for self-customizing | 6ES7590-1BC00-0AA0 |
| PE-connection element for mounting rail 2000 mm (spare), 20 pcs. | 6ES7590-5AA00-0AA0 |
| Front connector for 35mm-wide modules; screw terminal, 40-pin | 6ES7592-1AM00-0XB0 |
| SIMATIC Memory Card 4 MB | 6ES7954-8LC01-0AA0 |
| SIMATIC Memory Card 12 MB | 6ES7954-8LE01-0AA0 |
| SIMATIC Memory Card 24 MB | 6ES7954-8LF01-0AA0 |
| SIMATIC Memory Card 2 GB | 6ES7954-8LP01-0AA0 |



Spare parts

| | |
|--|--------------------|
| Universal front cover for IM 155-5 PN ST, 5 pcs. | 6ES7528-0AA70-7AA0 |
| U-type connector, 5 pcs. | 6ES7590-0AA00-0AA0 |
| Plug, 2x2-pin, for 24 V DC power supply, push-in terminal, 10 pcs. | 6ES7193-4JB00-0AA0 |
| Universal front cover for IO modules (PU = 5 pcs.) | 6ES7528-0AA00-7AA0 |
| Sheets with labeling strips (Al grey) (PU = 10 pcs.) | 6ES7592-2AX00-0AA0 |
| Shielding set S7-1500 periphery (PU = 5 pcs.) | 6ES7590-5CA00-0AA0 |
| Separate shielding terminal (PU = 10 pcs.) | 6ES7590-5BA00-0AA0 |
| Jumper link front connector (PU = 20 pcs.) | 6ES7592-3AA00-0AA0 |
| Display for CPU 1511/13 | 6ES7591-1AA00-0AA0 |
| Display for CPU 1515, 1516 and 1518 | 6ES7591-1BA00-0AA0 |



SIPLUS extreme

SIPLUS extreme

| | |
|---|--------------------|
| SIPLUS ET 200MP interface module; IM 155-5 PN | 6AG1155-5AA00-7AB0 |
| SIPLUS S7-1500 digital input; 32 DI, 24 V DC, 3 ms, Type 3 | 6AG1521-1BL00-7AB0 |
| SIPLUS S7-1500 digital output; 32 DQ, 24 V DC, 0.5 A | 6AG1522-1BL00-7AB0 |
| SIPLUS S7-1500 analog input; 8 AI, U, I, R, RTD, TC, 14 bit | 6AG1531-7KF00-7AB0 |
| SIPLUS S7-1500 analog output; 4 AQ, U, I, 16 bit | 6AG1532-5HD00-7AB0 |
| SIPLUS S7-1500 digital input; 16 DI, 24 V DC, 3 ms, Type 3 | 6AG1521-1BH00-7AB0 |
| SIPLUS S7-1500 digital output; 16 DQ, 24 V DC, 0.5 A | 6AG1522-1BH00-7AB0 |
| SIPLUS S7-1500 system power supply; PS1505 25 W, 24 V DC | 6AG1505-0KA00-7AB0 |



Power supply and system wiring

PS system power supply

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|---|--------------------|
| System power supply 25 W, 24 V DC | 6ES7505-0KA00-0AB0 |
| System power supply 60 W, 24/48/60 V DC | 6ES7505-0RA00-0AB0 |
| System power supply 60 W, 120/230 V AC/DC | 6ES7507-0RA00-0AB0 |

The system power supply (PS) provides the voltage supply for the S7-1500 modules through the backplane bus



PM load current supply

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|------------------------|---------------|
| PM 70 W, 120/230 V AC | 6EP1332-4BA00 |
| PM 190 W, 120/230 V AC | 6EP1333-4BA00 |

The load current supply (PM) provides 24 V power for SIMATIC S7-1500 modules such as CPU, system power supplies, IO circuits of the peripheral modules, and, where required, sensors and actors



System wiring SIMATIC TOP connect

| | |
|---|--------------------|
| Fully modular connection for IO modules (modular system for field connection) | |
| Front plug-in module 4 x 8 I/O, push-in | 6ES7921-5AH20-0AA0 |
| Front plug-in module 4 x 8 I/O, screw terminals | 6ES7921-5AB20-0AA0 |
| Front plug-in module 1 x 8 DO for 2 A modules, push-in | 6ES7921-5AJ00-0AA0 |
| Front plug-in module 1 x 8 DO for 2 A modules, conductor-connection | 6ES7921-5AD00-0AA0 |
| Connecting cable 5 m shielded (available lengths 1 to 10 m) | 6ES7923-0BF00-0DB0 |
| Connecting cable 5 m unshielded (available lengths 0.5 to 10 m) | 6ES7923-0BF00-0CB0 |
| Connection module 8 I/O digital 1-conductor-connection, screw terminals without LED | 6ES7924-0AA20-0AA0 |
| Connection module 8 I/O digital 1-conductor-connection, screw terminals with LED | 6ES7924-0AA20-0BA0 |
| Connection module 8 I/O digital 3-conductor-connection, screw terminals without LED | 6ES7924-0CA20-0AA0 |
| Connection module 8 I/O digital 3-conductor-connection, screw terminals with LED | 6ES7924-0CA20-0BA0 |
| Connection module I/O for 2 A modules, screw terminals | 6ES7924-0BB20-0AA0 |



Flexible connection for IO modules (wiring in switch cabinet, available lengths up to 10 m)

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|---|--------------------|
| Front plug with 40 single cores H05V-K (0.5 mm ² with bolted connections), 2.5 m | 6ES7922-5BC50-0AC0 |
| Front plug with 40 single cores halogen-free (0.5 mm ² with bolted connections), 2.5 m | 6ES7922-5BC50-0HC0 |
| Front plug with 40 single cores UL/CSA certified (0.5 mm ² with bolted connections), 3.2 m | 6ES7922-5BD20-0UC0 |
| Front plug with 20 single cores (0.5 mm ² with bolted connections), 2.5 m | 6ES7922-5BC50-0AB0 |
| Front plug with 20 single cores halogen-free (0.5 mm ² with bolted connections), 2.5 m | 6ES7922-5BC50-0HB0 |
| Front plug with 20 single cores UL/CSA certified (0.5 mm ² with bolted connections), 3.2 m | 6ES7922-5BD20-0UB0 |



More information about system wiring can be found in the Siemens Industry Mall or on www.siemens.com/simatic-tc

Your plus of efficiency:

- + Innovative design and easy handling for simple usage and commissioning as well as safe operation
- + Integrated system diagnosis for full transparency of the plant status – automatically generated and consistently displayed
- + TIA Portal for highest engineering efficiency to reduce project costs – and with Safety Integrated, of course



efficiency



Discover more

www.siemens.com/s7-1500

Discover everything about SIMATIC S7-1500:

- › in video form: design overview and videos showing the main highlights
- › as 360° animation: experience all benefits directly on the product
- › everything about the outstanding engineering efficiency thanks to TIA Portal

**SIMATIC
S7-1500 –
take a look!**



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Please find further information on this subject at:
<http://support.automation.siemens.com>.

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