MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7416-5HS06-0AB0

SIMATIC S7 400 CPU MODULE

Used with the applicable PLC System configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official manufacturer documentation

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Ordering data	Article No.
PROFIBUS FastConnect bus cable Standard type with special design for fast mounting, 2-core, shielded, sold by the meter; max. delivery unit 1 000 m, minimum ordering quantity 20 m	**6XV1830-0EH10**
RS 485 repeater for PROFIBUS Transmission rate up to 12 Mbps; 24 V DC; IP20 enclosure	**6ES7972-0AA02-0XA0**
PROFINET bus components	
IE FC TP standard cable GP 2x2 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval Sold by the meter	**6XV1840-2AH10**
FO standard cable GP (50/125) Standard cable, splittable, UL approval, sold by the meter	**6XV1873-2A**
SCALANCE X204-2 Industrial Ethernet Switch Industrial Ethernet Switches with integral SNMP access, Web diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbps RJ45 ports and two FO ports	**6GK5204-2BB10-2AA3**
IE FC RJ45 plugs RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables	
IE FC RJ45 Plug 180 180° cable outlet	
• 1 unit	**6GK1901-1BB10-2AA0**
• 10 units	**6GK1901-1BB10-2AB0**
• 50 units	**6GK1901-1BB10-2AE0**
PROFIBUS/PROFINET bus components For establishing MPI/PROFIBUS/ PROFINET communication	See catalog IK PI

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Overview



- CPU for SIMATIC S7-400H and S7-400F/FH
- Can be used in S7-400H high-availability systems
- Can be used with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integrated PROFIBUS DP master and combined MPI/PROFIBUS DP master interface
- With integrated PROFINET interface (2-port switch)
- Features 2 slots for sync modules

Technical specifications

Article number	**6ES7412-5HK06-0AB0** CPU412-5H PN/DP, 1MB F. S7-400H/F/FH	**6ES7414-5HM06-0AB0** CPU414-5H PN/DP, 4MB F. S7-400H/F/FH	**6ES7416-5HS06-0AB0** CPU416-5H PN/DP, 16MB F. S7-400H/F/FH	**6ES7417-5HT06-0AB0** CPU417-5H PN/DP, 32MB F. S7-400H/F/FH
Product type designation				
General information				
Engineering with				
• Programming package	As of STEP 7 V5.5 SP2 with HF1	As of STEP 7 V5.5 SP2 with HF1	As of STEP 7 V5.5 SP2 with HF1	As of STEP 7 V5.5 SP2 with HF1
Supply voltage				
Rated value (DC)				
• 24 V DC	No; Power supply via system power supply	No; Power supply via system power supply	No; Power supply via system power supply	No; Power supply via system power supply
Power losses				
Power loss, typ.	7.5 W	7.5 W	7.5 W	7.5 W
Memory				
Work memory				
• Integrated	1 Mbyte	4 Mbyte	16 Mbyte	32 Mbyte
• integrated (for program)	512 kbyte	2 Mbyte	6 Mbyte	16 Mbyte
• integrated (for data)	512 kbyte	2 Mbyte	10 Mbyte	16 Mbyte
Load memory				
• expandable FEPROM, max.	64 Mbyte	64 Mbyte	64 Mbyte	64 Mbyte
• integrated RAM, max.	512 kbyte	512 kbyte	1 Mbyte	1 Mbyte
• expandable RAM, max.	64 Mbyte	64 Mbyte	64 Mbyte	64 Mbyte
CPU processing times				
for bit operations, typ.	31.25 ns	18.75 ns	12.5 ns	7.5 ns
for word operations, typ.	31.25 ns	18.75 ns	12.5 ns	7.5 ns
for fixed point arithmetic, typ.	31.25 ns	18.75 ns	12.5 ns	7.5 ns
for floating point arithmetic, typ.	62.5 ns	37.5 ns	25 ns	15 ns
Counters, timers and their retentivity				
S7 counter				
• Number	2 048	2 048	2 048	2 048
IEC counter				
• present	Yes	Yes	Yes	Yes
S7 times				
• Number	2 048	2 048	2 048	2 048
IEC timer				
• present	Yes	Yes	Yes	Yes
Data areas and their retentivity				
Flag				
• Number, max.	8 192 byte	8 192 byte	16 384 byte	16 384 byte

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Technical specifications (continued)

Article number	6ES7412-5HK06-0AB0 CPU412-5H PN/DP, 1MB F. S7-400H/F/FH	6ES7414-5HM06-0AB0 CPU414-5H PN/DP, 4MB F. S7-400H/F/FH	6ES7416-5HS06-0AB0 CPU416-5H PN/DP, 16MB F. S7-400H/F/FH	6ES7417-5HT06-0AB0 CPU417-5H PN/DP, 32MB F. S7-400H/F/FH
Address area				
I/O address area				
• Inputs	8 kbyte	8 kbyte	16 kbyte	16 kbyte
• Outputs	8 kbyte	8 kbyte	16 kbyte	16 kbyte
Process image				
• Inputs, adjustable	8 kbyte	8 kbyte	16 kbyte	16 kbyte
• Outputs, adjustable	8 kbyte	8 kbyte	16 kbyte	16 kbyte
Hardware configuration				
Slots				
• Required slots	2	2	2	2
Time of day				
Clock				
• Hardware clock (real-time clock)	Yes	Yes	Yes	Yes
Operating hours counter				
• Number	16	16	16	16
Interfaces				
Number of RS 485 interfaces	2	2	2	2
Number of other interfaces	2; Fiber-optic interface	2; Fiber-optic interface	2; Fiber-optic interface	2; Fiber-optic interface
1st interface				
Interface type	Integrated	Integrated	Integrated	Integrated
Physics	RS 485 / PROFIBUS + MPI	RS 485 / PROFIBUS + MPI	RS 485 / PROFIBUS + MPI	RS 485 / PROFIBUS + MPI
Functionality				
• MPI	Yes	Yes	Yes	Yes
• DP master	Yes	Yes	Yes	Yes
• DP slave	No	No	No	No
DP master				
• Number of DP slaves, max.	32	32	32	32
2nd interface				
Interface type	PROFINET	PROFINET	PROFINET	PROFINET
Physics	Ethernet RJ45	Ethernet RJ45	Ethernet RJ45	Ethernet RJ45
Number of ports	2	2	2	2
Functionality				
• DP master	No	No	No	No
• DP slave	No	No	No	No
• PROFINET IO Controller	Yes	Yes	Yes	Yes
• PROFINET IO Device	No	No	No	No
• PROFINET CBA	No	No	No	No
PROFINET IO Controller				
• Max. number of connectable IO devices for RT	256	256	256	256
3rd interface				
Interface type	Integrated	Integrated	Integrated	Integrated
Physics	RS 485 / PROFIBUS	RS 485 / PROFIBUS	RS 485 / PROFIBUS	RS 485 / PROFIBUS
Functionality				
• DP master	Yes	Yes	Yes	Yes
• DP slave	No	No	No	No
DP master				
• Number of DP slaves, max.	64	96	125	125
4th interface				
Interface type	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0

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Technical specifications (continued)

Article number	**6ES7412-5HK06-0AB0**	**6ES7414-5HM06-0AB0**	**6ES7416-5HS06-0AB0**	**6ES7417-5HT06-0AB0**
	CPU412-5H PN/DP, 1MB F. S7-400H/F/FH	CPU414-5H PN/DP, 4MB F. S7-400H/F/FH	CPU416-5H PN/DP, 16MB F. S7-400H/F/FH	CPU417-5H PN/DP, 32MB F. S7-400H/F/FH
5. Interface				
Interface type	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
Isochronous mode				
Isochronous operation (application synchronized up to terminal)	No	No	No	No
Communication functions				
PG/OP communication	Yes	Yes	Yes	Yes
Data record routing	Yes	Yes	Yes	Yes
S7 routing	Yes	Yes	Yes	Yes
Global data communication				
• supported	No	No	No	No
S7 basic communication				
• supported	No	No	No	No
S7 communication				
• supported	Yes	Yes	Yes	Yes
S5-compatible communication				
• supported	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)
Standard communication (FMS)				
• supported	Yes; Via CP and loadable FB	Yes; Via CP and loadable FB	Yes; Via CP and loadable FB	Yes; Via CP and loadable FB
Open IE communication				
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	46	62	94	118
• ISO-on-TCP (RFC1006)	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs
- Number of connections, max.	46	62	94	118
• UDP	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	46	62	94	118
Web server				
• supported	No	No	No	No
Number of connections				
• overall	48	64	96	120
Configuration				
Programming				
Programming language				
- LAD	Yes	Yes	Yes	Yes
- FBD	Yes	Yes	Yes	Yes
- STL	Yes	Yes	Yes	Yes
- SCL	Yes	Yes	Yes	Yes
- CFC	Yes	Yes	Yes	Yes
- GRAPH	Yes	Yes	Yes	Yes
- HiGraph®	Yes	Yes	Yes	Yes
Know-how protection				
• User program protection/password protection	Yes	Yes	Yes	Yes
• Block encryption	Yes; With S7 block Privacy	Yes; With S7 block Privacy	Yes; With S7 block Privacy	Yes; With S7 block Privacy
Dimensions				
Width	50 mm	50 mm	50 mm	50 mm
Height	290 mm	290 mm	290 mm	290 mm
Depth	219 mm	219 mm	219 mm	219 mm
Weights				
Weight, approx.	995 g	995 g	995 g	995 g

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Ordering data	Article No.
CPU 412-5H For S7-400H and S7-400F/FH; 1 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	**6ES7412-5HK06-0AB0**
CPU 412-5H system bundle Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 412-5H, 4 x sync modules (for max. 10 m), 2 x fiber optic cables for sync modules (1 m), 4 x backup batteries; two additional memory cards required (to be ordered separately)	
• CPU 412-5H system bundle, 120/230 V AC, 10 A	**6ES7400-0HR01-4AB0**
• CPU 412-5H system bundle, 24/48/60 V DC, 10 A	**6ES7400-0HR51-4AB0**
CPU 414-5H For S7-400H and S7-400F/FH; 4 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	**6ES7414-5HM06-0AB0**
CPU 414-5H system bundle Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 414-5H, 4 x sync modules (for max. 10 m), 2 x fiber optic cables for sync modules (1 m), 4 x backup batteries; additional two memory cards required (to be ordered separately)	
• CPU 414-5H system bundle, 120/230 V AC, 10 A	**6ES7400-0HR02-4AB0**
• CPU 414-5H system bundle, 24/48/60 V DC, 10 A	**6ES7400-0HR52-4AB0**
CPU 416-5H For S7-400H and S7-400F/FH; 16 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	**6ES7416-5HS06-0AB0**
CPU 416-5H system bundle Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 416-5H, 4 x sync modules (for max. 10 m), 2 x fiber optic cables for sync modules (1 m), 4 x backup batteries; two additional memory cards required (to be ordered separately)	
• CPU 416-5H system bundle, 120/230 V AC, 10 A	**6ES7400-0HR03-4AB0**
• CPU 416-5H system bundle, 24/48/60 V DC, 10 A	**6ES7400-0HR53-4AB0**
CPU 417-5H For S7-400H and S7-400F/FH; 32 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	**6ES7417-5HT06-0AB0**
CPU 417-5H system bundle Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 417-5H, 4 x sync modules (for max. 10 m), 2 x fiber optic cables for sync modules (1 m), 4 x backup batteries; two additional memory cards required (to be ordered separately)	
• CPU 417-5H system bundle, 120/230 V AC, 10 A	**6ES7400-0HR04-4AB0**
• CPU 417-5H system bundle, 24/48/60 V DC, 10 A	**6ES7400-0HR54-4AB0**
Memory card RAM	
1 MB	**6ES7952-1AK00-0AA0**
2 MB	**6ES7952-1AL00-0AA0**
4 MB	**6ES7952-1AM00-0AA0**
8 MB	**6ES7952-1AP00-0AA0**
16 MB	**6ES7952-1AS00-0AA0**
64 MB	**6ES7952-1AY00-0AA0**
FEPROM memory card	
1 MB	**6ES7952-1KK00-0AA0**
2 MB	**6ES7952-1KL00-0AA0**
4 MB	**6ES7952-1KM00-0AA0**
8 MB	**6ES7952-1KP00-0AA0**
16 MB	**6ES7952-1KS00-0AA0**
32 MB	**6ES7952-1KT00-0AA0**
64 MB	**6ES7952-1KY00-0AA0**
MPI cable For connection of SIMATIC S7 and PG via MPI; 5 m in length	**6ES7901-0BF00-0AA0**
Slot number plates 1 set (spare part)	**6ES7912-0AA00-0AA0**
S7 F Systems RT License For processing safety-related user programs, for one S7-400H-based system each with CPU 412-5H, CPU 414-5H, CPU 416-5H or CPU 417-5H	**6ES7833-1CC00-6YX0**
S7 F Systems V6.1 Programming and configuring environment for creating and operating safety-related STEP 7 programs for an S7-400H-based target system, floating license for 1 user, runs with Windows XP Prof SP2, Windows XP Prof SP2/SP3, Windows Server 2003 SP2 2 languages (English, German) Type of delivery: Certificate of License as well as software and electronic documentation on CD	**6ES7833-1CC02-0YA5**

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Ordering data

	Article No.
S7 F systems upgrade from V5.x/V6.0 to V6.1 2 languages (English, German), floating license for 1 user Type of delivery: Certificate of License as well as software and electronic documentation on CD	**6ES7833-1CC02-0YE5**
SIMATIC Manual Collection Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC-based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC	**6ES7998-8XC01-8YE0**
SIMATIC Manual Collection update service for 1 year Current "Manual Collection" DVD and the three subsequent updates	**6ES7998-8XC01-8YE2**

	Article No.
RS 485 bus connector with 90° cable outlet	
Max. transfer rate 12 Mbit/s	
• Without PG interface	**6ES7972-0BA12-0XA0**
• With PG interface	**6ES7972-0BB12-0XA0**
RS 485 bus connector with angled cable outlet	
• Max. transfer rate 12 Mbit/s	
- Without PG interface	**6ES7972-0BA42-0XA0**
- With PG interface	**6ES7972-0BB42-0XA0**
• Max. transfer rate 1.5 Mbit/s	
- Without PG interface	**6ES7972-0BA30-0XA0**
Bus connector RS 485 with 90° cable outlet for FastConnect connection technology	
Max. transfer rate 12 Mbit/s	
• Without PG interface	
- 1 unit	**6ES7972-0BA52-0XA0**
- 100 units	**6ES7972-0BA52-0XB0**
• With PG interface	
- 1 unit	**6ES7972-0BB52-0XA0**
- 100 units	**6ES7972-0BB52-0XB0**
RS 485 bus connector with axial cable outlet	
For SIMATIC OP, for connection to PPI, MPI, PROFIBUS	**6GK1500-0EA02**
PROFIBUS FastConnect bus cable	
Standard type with special design for quick mounting, 2-core, shielded, sold by the meter, max. delivery unit 1000 m, minimum ordering quantity 20 m	**6XV1830-0EH10**

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SIPLUS S7-400 CPU 414H

Overview



CPU for SIMATIC S7-400H and S7-400F/FH

- Usable in high-availability systems such as the S7-400H
- Usable with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integral PROFIBUS DP master interface
- Features 2 slots for sync modules

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

Technical specifications

Article number	**6AG1414-5HM06-7AB0**
Based on	**6ES7414-5HM06-0AB0**
	SIPLUS S7-400 CPU 414-5H
Ambient conditions	
Ambient temperature in operation	
• Min.	-25 °C
• max.	70 °C; For "F-Systems" applications max. +60 °C permissible
Extended ambient conditions	
• Relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m). For "F-Systems" applications max. +2000 m above sea level permissible
Relative humidity	
- With condensation, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS S7-400 CPU 414-5H	
CPU for S7-400H with 4 MB RAM (2 MB code and 2 MB data); 5 interfaces: 1x MPI/DP, DP, PN each and 2 slots for sync modules	
Extended temperature range and exposure to media	**6AG1414-5HM06-7AB0**
Accessories	
Memory Card RAM	
Exposure to media	
• 2 MB	**6AG1952-1AL00-4AA0**
Extended temperature range and exposure to media	
• 4 MB	**6AG1952-1AM00-7AA0**
• 8 MB	**6AG1952-1AP00-7AA0**
• 16 MB	**6AG1952-1AS00-7AA0**
• 64 MB	**6AG1952-1AY00-7AA0**
FEPROM memory card	
Exposure to media	
• 32 MB	**6AG1952-1KT00-4AA0**
RS 485 bus connector with 90° cable outlet	
Max. transfer rate 12 Mbit/s	
Extended temperature range and exposure to media	
• Without PG interface	**6AG1972-0BA12-2XA0**
• With PG interface	**6AG1972-0BB12-2XA0**

	Article No.
RS 485 bus connector with angled cable outlet	
Max. transmission rate 12 Mbit/s	
Extended temperature range and exposure to media	
• Without PG interface	**6AG1972-0BA42-7XA0**
• With PG interface	**6AG1972-0BB42-7XA0**
RS 485 bus connector with axial cable outlet	
For SIPLUS OP, for connection to PPI, MPI, PROFIBUS	
Extended temperature range and exposure to media	**6AG1500-0EA02-2AA0**
RS 485 repeater for PROFIBUS	
Transfer rate up to 12 Mbit/s; 24 V DC; IP20 enclosure	
Extended temperature range and exposure to media	**6AG1972-0AA02-7XA0**
Additional accessories	see SIMATIC S7-400 CPU 414-5H, page 1/37

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Overview

- CPU for SIMATIC S7-400H and S7-400F/FH
- Usable in high-availability systems such as the S7-400H
- Usable with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integrated PROFIBUS DP master and combined MPI/ PROFIBUS DP master interface
- With integrated PROFINET interface (2-port switch)
- Features 2 slots for sync modules

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

Technical specifications

Article number	**6AG1416-5HS06-7AB0**
Based on	**6ES7416-5HS06-0AB0** SIPLUS S7-400 CPU 416-5H
Ambient conditions	
Ambient temperature in operation	
• Min.	-25 °C; = Tmin
• max.	70 °C; For "F-Systems" applications max. +60 °C permissible
Extended ambient conditions	
• Relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m). For "F-Systems" applications max. +2000 m above sea level permissible
Relative humidity	
- With condensation, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS S7-400 CPU 416-5H (medial exposure) CPU for S7-400H with 16 MB RAM (6 MB code and 10 MB data); 5 interfaces: 1x MPI/DP, DP, PN each and 2 slots for sync modules	**6AG1416-5HS06-7AB0**
Accessories	
Memory card RAM	
Exposure to media	
• 2 MB	**6AG1952-1AL00-4AA0**
Extended temperature range and exposure to media	
• 4 MB	**6AG1952-1AM00-7AA0**
• 8 MB	**6AG1952-1AP00-7AA0**
• 16 MB	**6AG1952-1AS00-7AA0**
• 64 MB	**6AG1952-1AY00-7AA0**
FEPROM memory card	
Exposure to media	
• 32 MB	**6AG1952-1KT00-4AA0**
RS 485 bus connector with 90° cable outlet	
Max. transmission rate 12 Mbit/s	
Extended temperature range and exposure to media	
• Without PG interface	**6AG1972-0BA12-2XA0**
• With PG interface	**6AG1972-0BB12-2XA0**
RS 485 bus connector with angled cable outlet	
Max. transmission rate 12 Mbit/s	
Extended temperature range and exposure to media	
• Without PG interface	**6AG1972-0BA42-7XA0**
• With PG interface	**6AG1972-0BB42-7XA0**
RS 485 bus connector with axial cable outlet	
For SIPLUS OP, for connection to PPI, MPI, PROFIBUS	
Extended temperature range and exposure to media	**6AG1500-0EA02-2AA0**
RS 485 repeater for PROFIBUS	
Transfer rate up to 12 Mbit/s; 24 V DC; IP20 enclosure	
Extended temperature range and exposure to media	**6AG1972-0AA02-7XA0**
Additional accessories	see SIMATIC S7-400 CPU 416-5H, page 1/37