MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7416-3XR05-0AB0

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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SIPLUS S7-400 CPU 414

Overview



- CPUs for high demands in the mid-level performance range
- Applicable for plants with additional demands on programming scope and processing speed
- Integrated PROFINET functions in CPU 414-3 PN/DP

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.

For further technical documentation on SIPLUS, see:
www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1414-3EM07-7AB0**
Based on	**6ES7414-3EM07-0AB0**
	SIPLUS S7-400 CPU 414-3 PN/DP V7
Ambient conditions	
Ambient temperature in operation	
• Min.	-25 °C; = Tmin
• max.	70 °C; = Tmax
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)

Relative humidity	
- With condensation, max.	100 %; Relative humidity, incl. condensation / frost permitted (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 414-3 PN/DP	
CPU with main memory 4 MB (2 MB code and 2 MB data), 3 interfaces: 1x MPI/DP, PN each and for IF964-DP (plug-in)	
Extended temperature range and exposure to media	**6AG1414-3EM07-7AB0**
Accessories	
Memory Card RAM	see SIPLUS S7-400 CPU 412, page 1/21
IF 964-DP interface module	**6AG1964-2AA04-7AB0**
For connecting an additional DP line; for SIPLUS CPU 414-3 PN/DP, CPU 416-3, CPU 416-3 PN/DP, CPU 417-4	
RS 485 bus connector with 90° cable outlet	see SIPLUS S7-400 CPU 412, page 1/21
RS 485 bus connector with angled cable outlet	see SIPLUS S7-400 CPU 412, page 1/21
RS 485 bus connector with axial cable outlet	see SIPLUS S7-400 CPU 412, page 1/21

	Article No.
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**
SIPLUS SCALANCE X204-2 Industrial Ethernet Switch	
with integral SNMP access, Web diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbit/s RJ45 ports and two FO ports	
Extended temperature range and exposure to media	**6AG1204-2BB10-4AA3**
IE FC RJ45 Plug 180	
180° cable outlet; 1 unit	
Extended temperature range and exposure to media	**6AG1901-1BB10-7AA0**
Further accessories	see SIMATIC S7-400 CPU 414, page 1/11

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Overview



High-performance CPUs in the high-end performance range

- Applicable for plants with high requirements in the high-end performance range
- Integrated PROFINET functions in CPU 416-3 PN/DP

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.

For technical documentation on SIPLUS, see:
www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1416-3XR05-4AB0**	**6AG1416-3ES07-7AB0**
Based on	**6ES7416-3XR05-0AB0**	**6ES7416-3ES07-0AB0**
	SIPLUS S7-400 CPU416-3	SIPLUS S7-400 CPU 416-3 PN/DP V7
Ambient conditions		
Ambient temperature in operation		
• Min.	0 °C; = Tmin	-25 °C; = Tmin
• max.	60 °C; = Tmax	70 °C; = Tmax
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)	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)
Relative humidity		
- With condensation, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; Relative humidity, incl. condensation / frost permitted (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!	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!	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!	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 416-3	
CPU with main memory 11.2 MB (5.6 MB code and 5.6 MB data), 3 interfaces: 1x MPI/DP, DP each and module slot for 1 IF module	
Exposure to media	**6AG1416-3XR05-4AB0**
SIPLUS S7-400 CPU 416-3 PN/DP	
CPU with main memory 16 MB (8 MB code and 8 MB data), 3 interfaces: 1x MPI/DP, PN each and module slot for 1 IF module	
Extended temperature range and exposure to media	**6AG1416-3ES07-7AB0**

	Article No.
SIPLUS accessories	see SIPLUS S7-400 CPU 414, page 1/22
Further accessories	see SIMATIC S7-400 CPU 416, page 1/16

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SIPLUS S7-400 CPU 417

Overview



The most powerful SIMATIC S7-400 CPU

- Applicable for plants with maximum requirements in the high-end performance range
- With 2 plug-in slots for IF 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.

For technical documentation on SIPLUS, see:
www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1417-4XT07-4AB0**
Based on	**6ES7417-4XT07-0AB0**
	SIPLUS S7-400 CPU417-4
Ambient conditions	
Ambient temperature in operation	
• Min.	0 °C; = Tmin
• max.	60 °C; = Tmax
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)

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 CPU 417-4	
CPU with main memory 32 MB (16 MB code and 16 MB data), 3 interfaces: 1x MPI/DP, DP each and 2x for IFM modules (plug-in)	
Exposure to media	**6AG1417-4XT07-4AB0**
Accessories	
Memory card RAM	See SIPLUS S7-400 CPU 412, page 1/21
FEPROM memory card	
Exposure to media	
• 32 MB	**6AG1952-1KT00-4AA0**

	Article No.
RS 485 bus connector with 90° cable outlet	See SIPLUS S7-400 CPU 412, page 1/21
RS 485 bus connector with angled cable outlet	See SIPLUS S7-400 CPU 412, page 1/21
RS 485 bus connector with axial cable outlet	See SIPLUS S7-400 CPU 412, page 1/21
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**
Further accessories	See SIMATIC CPU 417, page 1/20