MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7400-1JA01-0AA0

S7 400 UNIVERSAL RACK

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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Overview



- Can be used for modules of the SIMATIC S7-400.
- The front connectors with single wires replace the standard SIMATIC connectors:
  - 6ES7492-1AL00-0AA0
  - 6ES7492-1BL00-0AA0
  - 6ES7492-1CL00-0AA0

Technical specifications

Front connector with single cores	
Rated operating voltage	24 V DC
Max. permissible continuous current with simultaneous load on all cores	1.0 A
Permissible ambient temperature	0 to +60 °C
Core type	H05V-K or with UL style 1007/1569 CSA TR64
Number of cores	46
Core cross-section	0.5 mm², Cu
Bundle diameter in mm	approx. 17
Core color	Blue, RAL 5010
Designation of cores	Numbered 3 to 48 (adapter contact = core number)
Assembly	Screw-type or crimp contacts

Ordering data

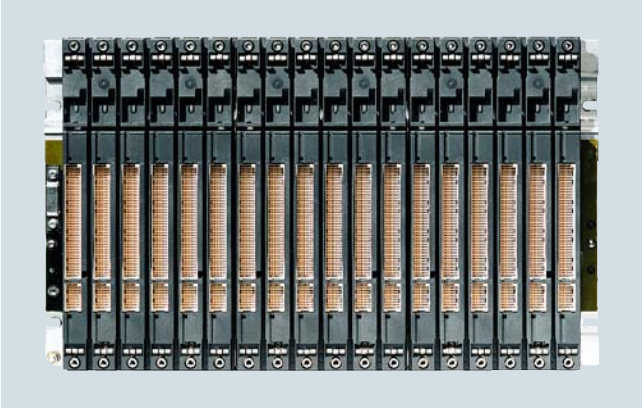
	Article No.
Front connector with single cores for 32-channel module SIMATIC S7-400, 46 x 0.5 mm²	
Core type H05V-K	
Screw connection	
Packaging unit: 1 unit Length:	
• 2.5 m	**6ES7922-4BC50-0AD0**
• 3.2 m	**6ES7922-4BD20-0AD0**
• 5 m	**6ES7922-4BF00-0AD0**
• Custom lengths	On request
Packaging unit: 5 units Length:	
• 2.5 m	**6ES7922-4BC50-5AD0**
• 3.2 m	**6ES7922-4BD20-5AD0**
• 5 m	**6ES7922-4BF00-5AD0**
Crimp connection	
Packaging unit: 1 unit Length:	
• 2.5 m	**6ES7922-4BC50-0AE0**
• 3.2 m	**6ES7922-4BD20-0AE0**
• 5 m	**6ES7922-4BF00-0AE0**
• Custom lengths	On request
Packaging unit: 5 units Length:	
• 2.5 m	**6ES7922-4BC50-5AE0**
• 3.2 m	**6ES7922-4BD20-5AE0**
• 5 m	**6ES7922-4BF00-5AE0**
Core type UL/CSA-certified	
Screw-type version	
Packaging unit: 1 unit	
• 3.2 m	**6ES7922-4BD20-0UD0**
• 5 m	**6ES7922-4BF00-0UD0**
• Custom lengths	On request

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Racks

Overview



- The basic mechanical framework of the SIMATIC S7-400/S7-400H
- For accommodating the modules, supplying them with operating voltage and connecting them via the backplane bus
- Several versions for configuring central controllers and expansion racks

UR1 (Universal Rack)

- For setting up central controllers and expansion units
- For holding up to 18 modules
- Also suitable for S7-400H
- Also available as aluminum rack

UR2 (Universal Rack)

- For setting up central controllers and expansion units
- For holding up to 9 modules
- Also suitable for S7-400H
- Also available as aluminum rack

CR2 (Central Rack)

- For setting up central controllers
- For holding up to 18 modules
- Segmented rack:
  For operating two mutually independent S7-400 CPUs without S7-400 Multicomputing, but with communication between the CPUs over the backplane bus (C bus). Both CPUs can address their own local I/O modules (segmented P bus).

CR3 (Central Rack)

- For configuring central racks
- Optimized for distributed automation solutions due to holding up to 4 modules

UR2-H

- For configuring a complete S7-400H system in one subrack
- Also suitable for S7-400:
  Operation of 2 separate CPUs with their own I/O (separate P and C buses)
- Can also be used as an expansion unit
- For holding up to 18 modules
- Also available as aluminum rack

ER1 (Extension Rack)

- For setting up expansion units economically
- For holding up to 18 modules with restricted functionality
- Also suitable for S7-400H
- Also available as aluminum rack

ER2 (Extension Rack)

- For setting up expansion units economically
- For holding up to 9 modules with restricted functionality
- Also suitable for S7-400H
- Also available as aluminum rack

Technical specifications

Article number	**6ES7400-1TA01-0AA0** S7-400, UR1 RACK, 18 SLOTS	**6ES7400-1TA11-0AA0** S7-400, UR1 RACK ALU, 18 SLOTS	**6ES7400-1JA01-0AA0** S7-400, UR2 RACK, 9 SLOTS	**6ES7400-1JA11-0AA0** S7-400 RACK ALU UR2, 9 SLOTS	**6ES7401-2TA01-0AA0** SIMATIC S7-400, CR2 RACK, 18 SLOTS	**6ES7401-1DA01-0AA0** S7-400 CR3 RACK, 4 SLOTS
Product type designation						
Hardware configuration						
Rack						
• Communication bus	Yes	Yes	Yes	Yes	Yes	Yes
• P bus	Yes	Yes	Yes	Yes	Yes	Yes
Slots						
• Number of single-width slots, max.	18	18	9	9	18; 2 segments with 8 or 10 slots	4
Dimensions						
Width	482.5 mm	482.5 mm	257.5 mm	257.5 mm	482.5 mm	130 mm
Height	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Depth	27.5 mm	27.5 mm	27.5 mm	27.5 mm	27.5 mm	27.5 mm
Weights						
Weight, approx.	4 200 g	3 000 g	2 200 g	1 500 g	4 200 g	750 g

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Technical specifications (continued)

Article number	6ES7400-2JA00-0AA0 SIMATIC S7-400H, UR2-H RACK, 18 SLOTS	6ES7400-2JA10-0AA0 S7-400 MOD.TR ALU UR2-H, 18 SLOTS	6ES7403-1TA01-0AA0 SIMATIC S7-400, ER1 EXP. RACK,	6ES7403-1TA11-0AA0 S7-400, ER1 EXPANSION RACK ALU, 18 SLOTS	6ES7403-1JA01-0AA0 SIMATIC S7-400, ER2 EXP. RACK,	6ES7403-1JA11-0AA0 S7-400, ER2 EXPANSION RACK ALU, 9 SLOTS
Product type designation						
Hardware configuration						
Rack						
• Communication bus	Yes	Yes				
• P bus	Yes	Yes	Yes	Yes	Yes	Yes
Slots						
• Number of single-width slots, max.	18	18	18	18	9	9
Dimensions						
Width	482.5 mm	482.5 mm	482.5 mm	482.5 mm	257.5 mm	257.5 mm
Height	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Depth	27.5 mm	27.5 mm	27.5 mm	27.5 mm	27.5 mm	27.5 mm
Weights						
Weight, approx.	4 200 g	3 000 g	4 200 g	2 500 g	2 200 g	1 250 g

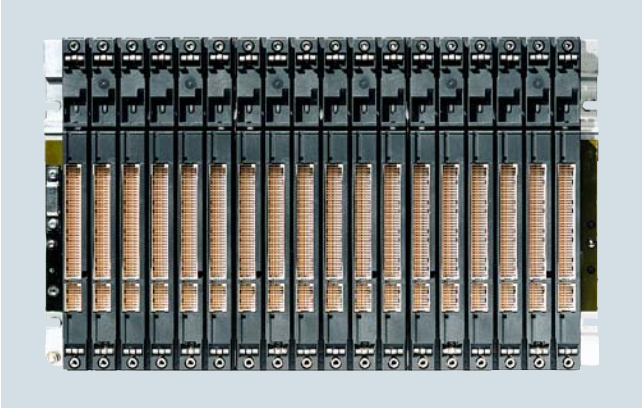
Ordering data

	Article No.
UR1 rack for central controllers and expansion units, 18 slots	**6ES7400-1TA01-0AA0**
UR1 aluminum rack for central controllers and expansion units, 18 slots	**6ES7400-1TA11-0AA0**
UR2 rack for central controllers and expansion units, 9 slots	**6ES7400-1JA01-0AA0**
UR2 aluminum rack for central controllers and expansion units, 9 slots	**6ES7400-1JA11-0AA0**
CR2 rack for segmented central controllers, 18 slots, 2 local segments	**6ES7401-2TA01-0AA0**
CR3 rack for central controllers and expansion units, 4 slots; optimized for distributed automation solutions	**6ES7401-1DA01-0AA0**

	Article No.
UR2-H rack for split CCs, 18 slots	**6ES7400-2JA00-0AA0**
UR2-H aluminum rack for split CCs, 18 slots	**6ES7400-2JA10-0AA0**
ER1 rack for expansion units, P bus only, 18 slots	**6ES7403-1TA01-0AA0**
ER1 aluminum rack for expansion units, P bus only, 18 slots	**6ES7403-1TA11-0AA0**
ER2 rack for expansion units, P bus only, 9 slots	**6ES7403-1JA01-0AA0**
ER2 aluminum rack for expansion units, P bus only, 9 slots	**6ES7403-1JA11-0AA0**
Slot cover 10 units (spare part)	**6ES7490-1AA00-0AA0**

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Overview



- The mechanical basic structure of SIPLUS S7-400/S7-400H
- For accommodating the modules, operating voltage supply, and connection of the modules via a backplane bus
- Several versions for setting up central controllers and expansion units
- SIPLUS rack material: Aluminum

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	**6AG1400-1TA11-7AA0**	**6AG1400-1JA11-7AA0**	**6AG1400-2JA10-7AA0**
Based on	**6ES7400-1TA11-0AA0**	**6ES7400-1JA11-0AA0**	**6ES7400-2JA10-0AA0**
	SIPLUS S7-400 RACK UR1 18SLOT ALU	SIPLUS S-400 RACK UR2 9SLOT ALU	SIPLUS S7-400 BGT UR2-H 2X9SLOT ALU
Ambient conditions			
Ambient temperature in operation			
• Min.	-25 °C; = Tmin	-25 °C; = Tmin	-25 °C
• max.	70 °C; = Tmax	70 °C; = Tmax	70 °C
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 (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 rack	
UR1 aluminum rack	
for central controllers and expansion units, 18 slots	
Extended temperature range and exposure to media	**6AG1400-1TA11-7AA0**
UR2 aluminum rack	
for central controllers and expansion units, 9 slots	
Extended temperature range and exposure to media	**6AG1400-1JA11-7AA0**

	Article No.
UR2-H aluminum rack	
for central controllers and expansion units, 9 slots	
Extended temperature range and exposure to media	**6AG1400-2JA10-7AA0**
Accessories	See SIMATIC rack S7-400, page 1/119