MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7314-1AE04-0AB0

CPU 314 CENTRAL PROCESSING UNIT

Used with the applicable SIMATIC S7-300 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens technical documentation for 6ES7314-1AE04-0AB0

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Data sheet 6ES7314-1AE04-0AB0

Spare part SIMATIC S7-300, CPU 314 Central processing unit with Integr. power supply 24 V DC Work memory 24 KB

Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	1 000 mA
Inrush current, typ.	8 A
Power loss	
Power loss, typ.	8 W
Memory	
Work memory	
• integrated	24 kbyte; 24 KB/8 K instructions RAM (integrated); 1 instruction means 3 bytes on average
Load memory	
• expandable FEPROM	Yes; Flash-EPROM
• expandable FEPROM, max.	4 Mbyte
• integrated RAM, max.	40 kbyte
Backup	
• present	Yes
• with battery	Yes; all blocks
• without battery	Yes; 4 KB: bit memory, counter, times and data
CPU processing times	
for bit operations, typ.	0.3 µs
for bit operations, max.	0.6 µs
for word operations, typ.	1 µs
for fixed point arithmetic, typ.	2 µs
for floating point arithmetic, typ.	50 µs
for timer/counter operations, typ.	12 µs
CPU-blocks	
DB	
• Number, max.	127
• Size, max.	8 kbyte
FB	
• Number, max.	128

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• Size, max.	8 kbyte
FC	
• Number, max.	128
• Size, max.	8 kbyte
OB	
• Description	see instruction list
• Size, max.	8 kbyte
• Number of free cycle OBs	1; OB 1
• Number of time alarm OBs	1; OB 10
• Number of cyclic interrupt OBs	1; OB 35
• Number of process alarm OBs	1; OB 40
• Number of startup OBs	1; OB 100
Nesting depth	
• per priority class	8

Counters, timers and their retentivity

S7 counter	
• Number	64
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	63
Counting range	
— lower limit	1
— upper limit	999
S7 times	
• Number	128
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	127
Time range	
— lower limit	10 ms
— upper limit	9 990 s

Data areas and their retentivity

Flag	
• Number, max.	256 byte
• Retentivity available	Yes; MB 0 to MB 255
• of which retentive with battery	0 to 2 047 (M 0.0 to M 255.7, adjustable)
• of which retentive without battery	0 to 2 047 (M 0.0 to M 255.7, adjustable)

Address area

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I/O address area	
• Inputs	512 byte
• Outputs	512 byte
Process image	
• Inputs	128 byte
• Outputs	128 byte
Digital channels	
• Inputs	1 024
• Outputs	1 024
Analog channels	
• Inputs	256
• Outputs	128
Addressing volume	
• Inputs	122 byte
• Outputs	122 byte

Hardware configuration	
Number of expansion units, max.	3
connectable programming devices/PCs	PGs/PCs with STEP 7 connectable via MPI interface
Number of modules per DP slave interface, max.	16
Number of DP masters	
• integrated	0
• via CP	1; CP 342-5
Number of operable FMs and CPs (recommended)	
• FM	4
• CP, PtP	2
• CP, LAN	1
Rack	
• Modules per rack, max.	32

Time of day	
Clock	
• Hardware clock (real-time)	Yes

Interfaces	
MPI	
• Cable length, max.	9 100 m; without repeaters: 50 m; with 2 repeaters: 1100 m; with 10 repeaters in series: 9100 m; via fiber optic cable: 23.8 km (with 16 star hubs or OLMs)

1. Interface	
Functionality	
• MPI	Yes
MPI	

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