SIEMENS

*** SPARE PART*** SIMATIC S7-300, CPU 313 CPU WITH INTEGRATED 24V DC POWER SUPPLY 12 KBYTE WORKING MEMORY

Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V

Input current	
Inrush current, typ.	8 A

Power loss	
Power loss, typ.	8 W

Memory	
Work memory	
• integrated	12 kbyte; 12 KB / 4K instructions RAM (integrated)
Load memory	
• expandable FEPROM	Yes; Flash-EPROM
• expandable FEPROM, max.	4 Mbyte
• integrated RAM, max.	20 kbyte
Backup	
• with battery	Yes; all blocks
• without battery	Yes; 72 bytes: memory bits, times, counters, data

CPU processing times	
for bit operations, typ.	0.6 µs
for bit operations, max.	1.2 µs
for word operations, typ.	2 µs
for fixed point arithmetic, typ.	3 µs
for floating point arithmetic, typ.	60 µs
for timer/counter operations, typ.	15 µs

CPU-blocks	
DB	
• Number, max.	127
• Size, max.	8 kbyte
FB	
• Number, max.	128
• Size, max.	8 kbyte

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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
of which retentive with battery	
— can be set	Yes
— lower limit	0
— upper limit	35
of which retentive without battery	
— can be set	Yes
— lower limit	0
— upper limit	35
Counting range	
— lower limit	1
— upper limit	999
S7 times	
• Number	128
of which retentive with battery	
— adjustable	Yes
— lower limit	0
— upper limit	35
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 576 (M 0.0 to M 71.7, adjustable)

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• of which retentive without battery	0 to 576 (M 0.0 to M 71.7, adjustable)

Address area	
I/O address area	
• Inputs	128 kbyte
• Outputs	128 kbyte
Process image	
• Inputs	32 byte
• Outputs	32 byte
Digital channels	
• Inputs	256
• Outputs	256
Analog channels	
• Inputs	64
• Outputs	32
Addressing volume	
• Inputs	64 byte
• Outputs	64 byte

Hardware configuration	
Number of expansion units, max.	0
connectable programming devices/PCs	PGs/PCs with STEP 7 connectable via MPI interface
Number of modules per DP slave interface, max.	8
Number of DP masters	
• via CP	1; CP 342-5
Rack	
• Racks, max.	1
• Modules per rack, max.	8

Time of day	
Clock	
• Software clock	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	
• Number of nodes, max.	32; 32 nodes on MPI bus; PG/PC, OP, additional S7-300/400, C7; per CPU max. 4 static and 4 dynamic connections
• Transmission rate, max.	187.5 kbit/s

Services	
— PG/OP communication	Yes
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
— S7 communication, as server	Yes

Communication functions

PG/OP communication	Yes
S7 communication	
• supported	Yes
• as server	Yes
Number of connections	
• overall	
— of which dynamic	4
— of which static	4

Configuration

Configuration software	
• STEP 7	Yes; V5.0
Programming	
• Command set	Binary logic operations, bracketed operations, result allocation, saving, counting, loading, transferring, comparing, shifting, rotating, complementation, calling blocks, fixed point arithmetic, floating point arithmetic, jump functions
• Nesting levels	8
• Program organization	Linear, structured
• System functions (SFC)	Interrupt and error processing, copy data, clock functions, diagnostic functions, module parameterization, operating mode transitions
• System function blocks (SFB)	Yes
Programming language	
— SCL	Yes; Optional
Know-how protection	
• User program protection/password protection	Yes
Cycle time monitoring	
• lower limit	1 ms
• upper limit	6 000 ms
• adjustable	Yes
• preset	150 ms

Dimensions

Width	80 mm
Height	125 mm
Depth	130 mm

Weights	
Weight, approx.	530 g; Memory card 16 g

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