SIEMENS

Data sheet 6ES7315-2AF03-0AB0

Spare part SIMATIC S7-300, CPU 315-2 DP, Central processing unit with integr. Power supply 24 V DC, Work memory 64 KB 2nd interface DP master/slave

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	64 kbyte; 64 KB / 21K instructions RAM (integrated)
Load memory	
• expandable FEPROM	Yes; Flash-EPROM
• expandable FEPROM, max.	4 Mbyte
• integrated RAM, max.	96 kbyte
Backup	
• 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.	255
• Size, max.	16 kbyte
FB	
• Number, max.	192
• Size, max.	16 kbyte

FC	
• Number, max.	192
• Size, max.	16 kbyte
OB	
• Description	see instruction list
• Size, max.	16 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; for each programming level

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
I/O address area

• Inputs	1 kbyte
• Outputs	1 kbyte
Process image	
• Inputs	128 byte
• Outputs	128 byte
Digital channels	
• Inputs	8 192
— of which central	1 024
• Outputs	8 192
— of which central	1 024
Analog channels	
• Inputs	512
— of which central	256
• Outputs	512
— of which central	128
Addressing volume	
• Inputs	244 byte
• Outputs	244 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.	64
Number of DP masters	
• integrated	1
• via CP	1; CP 342-5
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	4
• CP, LAN	2
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	
• Number of nodes, max.	32
• Transmission rate, max.	187.5 kbit/s
Services	
— PG/OP communication	Yes
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
2. Interface	
Functionality	
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	Yes
DP master	
• Number of DP slaves, max.	64
Services	
— Equidistance	Yes
— Activation/deactivation of DP slaves	Yes
— Direct data exchange (slave-to-slave communication)	Yes; Transmitter and receiver
User data per DP slave	
— User data per DP slave, max.	244 byte
Communication functions	
PG/OP communication	Yes
Global data communication	
• supported	Yes
S7 basic communication	
• supported	Yes
S7 communication	
• supported	Yes
S5 compatible communication	
• supported	Yes; via loadable blocks
Standard communication (FMS)	
• supported	Yes; via loadable blocks
Number of connections	
• overall	
— of which dynamic	8
— of which static	4
Configuration	
Configuration software	
• STEP 7	Yes; STEP 7 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
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Software libraries	
— Process diagnostics	Yes
— Software controller	Yes; depending on the required memory space and the resulting execution time
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

last modified: 04/21/2018