SIEMENS

Product data sheet 6ES7318-2AJ00-0AB0

Available as a Spare Part Only - subject to availability - SIMATIC S7-300, CPU 318-2 DP 512 KBYTE USER MEMORY (256 KB CODE; 256 KB DATA

Product version	
Hardware product version	03
Firmware version	V3.0
associated programming package	STEP 7 V5.1 SP2
Supply voltages	
Rated value	
24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
external protection for supply cables (recommendation)	Miniature circuit breaker; 2 A, type B or C
Current consumption	
Current consumption (in no-load operation), typ.	1.2 A
Inrush current, max.	12 A
Inrush current, typ.	8 A
I^2t	0.4 $A^2 \cdot s$
from supply voltage L+, max.	i
Current consumption/ power loss	
Power loss, typ.	12 W
Memory	
Work memory	
integrated	512 Kibyte
Load memory	
expandable FEPROM	Yes
expandable FEPROM, max.	4 Mbyte
integrated RAM, max.	64 Kibyte
expandable RAM	Yes
expandable RAM, max.	2 Mbyte
Backup	

present	Yes
with battery	Yes ; all blocks
without battery	Yes ; 11 KB
CPU/ blocks	
DB	
Number, max.	2047 ; Number band: 1 to 2047
Size, max.	64 Kibyte
FB	
Number, max.	1024 ; Number band: 0 to 1023
Size, max.	64 Kibyte
FC	
Number, max.	1024 ; Number band: 0 to 1023
Size, max.	64 Kibyte
OB	
Size, max.	64 Kibyte
Number of time alarm OBs	2 ; OB 10, 11
Number of delay alarm OBs	2 ; OB 20, 21
Number of watchdog interrupts	2 ; OB 32, 35
Number of process alarm OBs	2 ; OB 40, 41
Number of startup OBs	1 ; OB 100
Number of asynchronous error OBs	5 ; OB 80, 81, 85, 86, 87
Number of synchronous error OBs	2 ; OB 121, 122
Nesting depth	
per priority class	16
additional within an error OB	3
CPU/ processing times	
for bit operations, min.	0.1 µs
for bit operations, max.	0.1 µs
for word operations, min.	0.1 µs
for fixed point arithmetic, min.	0.1 µs
for floating point arithmetic, min.	0.6 µs
for timer/counter operations, min.	0.1 µs
Times/counters and their retentivity	
S7 counter	
Number	512

of which retentive without battery	
can be set	Yes
preset	Z 0 to Z 7
Counting range	
lower limit	0
upper limit	999
IEC counter	
present	Yes
Type	SFB
S7 times	
Number	512
Retentivity	
can be set	Yes
preset	No times retentive
Time range	
lower limit	10 ms
upper limit	9990 s
IEC timer	
present	Yes
Type	SFB
Data areas and their retentivity	
Flag	
Number, max.	1024 byte
Retentivity available	Yes ; MB 0 to MB 1023
Retentivity preset	MB 0 to MB 15
Number of clock memories	8 ; 1 memory byte
Data blocks	
Number, max.	2047 ; from DB 1 to DB 2047
Size, max.	64 Kibyte
Local data	
adjustable, max.	8192 byte
preset	3584 byte
per priority class, max.	8192 byte
Address area	
I/O address area	

Inputs	8 Kibyte
Outputs	8 Kibyte
of which, distributed	
Inputs	8 Kibyte
Outputs	8 Kibyte
Process image	
Inputs	2048 byte
Outputs	2048 byte
Inputs, default	256 byte
Outputs, default	256 byte
Digital channels	
Inputs	65536
Outputs	65536
Inputs, of which central	1024
Outputs, of which central	1024
Analog channels	
Inputs	4096
Outputs	4096
Inputs, of which central	256
Outputs, of which central	128
Hardware configuration	
Racks, max.	4
Modules per rack, max.	8
Number of DP masters	
integrated	2
via CP	4 ; CP 342-5
Number of operable FMs and CPs (recommended)	
FM	16
CP, point-to-point	8
CP, LAN	16
Time of day	
Clock	
Hardware clock (real-time clock)	Yes
battery-backed and synchronizable	Yes
Deviation per day, max.	10 s

Runtime meter	
Number	8
Number/Number range	0 to 7
Range of values	0 to 32767 hours
Granularity	1 hour
retentive	Yes
Clock synchronization	
supported	Yes
to MPI, master	Yes
to MPI, slave	Yes
in AS, master	Yes
in AS, slave	Yes
S7 message functions	
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	100
Test commissioning functions	
Status/control	
Status/control variable	Yes
Variables	Inputs, outputs, memory bits, DB, times, counters
Number of variables, max.	70
Forcing	
Forcing	Yes
Status block	Yes
Single step	Yes
Number of breakpoints	4
Diagnostic buffer	
present	Yes
Number of entries, max.	100
can be set	No
Communication functions	
PG/OP communication	Yes
Routing	Yes
Global data communication	
supported	Yes
Number of GD packets, transmitter, max.	1

Number of GD packets, receiver, max.	2
Size of GD packets, max.	54 byte
Size of GD packet (of which consistent), max.	32 byte
S7 basic communication	
supported	Yes
User data per job, max.	76 byte
User data per job (of which consistent), max.	76 byte
S7 communication	
supported	Yes
as server	Yes
User data per job, max.	160 byte
S5-compatible communication	
supported	Yes ; via CP and loadable FC
Standard communication (FMS)	
supported	Yes ; Via CP and loadable FC
Number of connections	
overall	32
usable for PG communication	31
reserved for PG communication	1
usable for OP communication	31
reserved for OP communication	1
usable for S7 basic communication	30
usable for S7 communication	30
1st interface	
Type of interface	Integrated RS 485 interface
Physics	RS 485
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	200 mA
Functionality	
MPI	Yes
DP master	Yes
DP slave	Yes
Point-to-point connection	No
MPI	
Number of connections	32

Services	
PG/OP communication	Yes
Global data communication	Yes
S7 basic communication	Yes
S7 communication	Yes
S7 communication, as server	Yes
Number of nodes, max.	32
Transmission speeds, max.	12 Mbit/s
DP master	
Services	
PG/OP communication	Yes
Global data communication	No
S7 basic communication	No
S7 communication, as server	Yes
Equidistance mode support	Yes
SYNC/FREEZE	Yes
Activation/deactivation of DP slaves	Yes
Direct data exchange (slave-to-slave communication)	Yes ; Transmitter and receiver
Transmission speeds, max.	12 Mbit/s
Number of DP slaves, max.	125
DP slave	
Services	
PG/OP communication	Yes
Routing	Yes
Transmission speeds, max.	12 Mbit/s
Transfer memory	
Inputs	244 byte
Outputs	244 byte
2nd interface	
Type of interface	integrated RS 485 interface
Physics	RS 485
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	200 mA
Functionality	
MPI	No

DP master	Yes
DP slave	Yes
Point-to-point connection	No
DP master	
Number of connections, max.	16
Services	
PG/OP communication	Yes
Routing	Yes
Global data communication	No
S7 basic communication	No
S7 communication	Yes
S7 communication, as client	No
S7 communication, as server	Yes
Equidistance mode support	Yes
SYNC/FREEZE	Yes
Activation/deactivation of DP slaves	Yes
Transmission speeds, max.	12 Mbit/s
Number of DP slaves, max.	125
Address area	
Inputs, max.	244 byte
Outputs, max.	244 byte
User data per DP slave	
Inputs, max.	244 byte
Outputs, max.	244 byte
DP slave	
Services	
Routing	Yes
GSD file	siem807f.gsg
Transmission speeds, max.	12 Mbit/s
Transfer memory	
Inputs	244 byte
Outputs	244 byte
CPU/ programming	
Programming language	
STEP 7	Yes ; V5.0

LAD	Yes
FBD	Yes
STL	Yes
SCL	Yes
CFC	Yes
HiGraph®	Yes
Command set	See instruction list
Nesting levels	8
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User program protection/password protection	Yes
Software libraries	
Process diagnostics	Yes
Software controller	Yes
System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list
Cycle time monitoring	
lower limit	1 ms
upper limit	6000 ms
can be set	Yes
preset	150 ms
Dimensions and weight	
Dimensions and weight	
Width	160 mm
Height	125 mm
Depth	130 mm
Weight	
Weight, approx.	930 g
Status	Apr 26, 2010