SIEMENS

Data sheet

6ES7314-1AG14-0AB0



SIMATIC S7-300, CPU 314 Central processing unit with MPI, Integr. power supply 24 V DC, work memory 128 KB, Micro Memory Card required

Figuresimilar	
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General information HW functional status	
HW functional status	
	01
Firmware version	V3.3
Engineering with	
 Programming package 	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 218
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
 Mains/voltage failure stored energy time 	5 ms
Repeat rate, min.	1 s
Input current	
Current consumption (rated value)	650 mA
Current consumption (in no-load operation), typ.	140 mA
Inrush current, typ.	3.5 A
l²t	1 A ² ·s
Power loss	
Power loss, typ.	4 W
Memory	
Work memory	
 integrated 	128 kbyte
expandable	No
Load memory	
• Plug-in (MMC)	Yes
• Plug-in (MMC), max.	8 Mbyte
 Data management on MMC (after last programming), min. 	10 a
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.06 µs
for word operations, typ.	0.12 µs
for fixed point arithmetic, typ.	0.16 µs
for floating point arithmetic, typ.	0.59 µs
CPU-blocks	
for word operations, typ. for fixed point arithmetic, typ. for floating point arithmetic, typ.	0.12 μs 0.16 μs

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Bit - Kumber, max. 1.024, Number range. 10 10000 Bit - Control Bit - Contr		reduced by the MMC used.
• Number max.1.02x. Number map:1.0 10000• Size, max.64 kbyle• Size, max.64 kbyle• Size, max.64 kbyle• Size, max.64 kbyle• Number, max.1.02x. Number maps:• Number, max.64 kbyle• Number, max.64 kbyle• Number, max.64 kbyle• Number of the cycle Obis1.02x. Number maps:• Number of the cycle Obis1.02x. Number map:• Number of obisy stam.64 kbyle• Number of obisy stam.64 kbyle• Number of obisy stam.64 kbyle• Number of obisy stam.7.08 10• Number of obisy stam.7.08 10• Number of obisy stam.7.08 10• Number of obisy stam.7.08 10.0• Number of objenchrong.1.00 10.0• Number of objenchrong.1.00 10.0• Number of objenchrong.1.08 10.0• Number of objenchrong.2.08 12.1 12.2Number of objenchrong.2.08 12.1 12.2Number of objenchrong.2.08 12.1 12.2• Number of objenchrong.1.08 10.0• Number of objenchrong.1.08 10.	DB	
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IEC timer • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 64 kbyte Flag • Size, max. 256 byte • Retentivity available Yes; MB 0 to MB 255 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte		
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• TypeSFB• NumberUnlimited only by RAM capacity)Data areas and their retentivity64 kbyteRetentive data area (incl. timers, counters, flags), max.64 kbyteFlag552e, max.• Size, max.256 byte• Retentivity availableYes; MB 0 to MB 255• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byte		Voc
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Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 64 kbyte Flag 64 kbyte • Size, max. 256 byte • Retentivity available Yes; MB 0 to MB 255 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte	•••	
Retentive data area (incl. timers, counters, flags), max. 64 kbyte Flag - • Size, max. 256 byte • Retentivity available Yes; MB 0 to MB 255 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte		
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• Size, max.256 byte• Retentivity availableYes; MB 0 to MB 255• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byte		
• Retentivity availableYes; MB 0 to MB 255• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byte		256 byte
Retentivity preset MB 0 to MB 15 Number of clock memories 8; 1 memory byte		
Number of clock memories 8; 1 memory byte		
	Data blocks	

Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset Local data	Yes
	20 like tas Marc 0 I/D and black
per priority class, max. Address area	32 kbyte; Max. 2 KB per block
I/O address area	1.024 byte
InputsOutputs	1 024 byte 1 024 byte
Process image	i uz4 byte
Inputs	1 024 byte
Outputs	1 024 byte
Inputs, adjustable	1 024 byte
Outputs, adjustable	1 024 byte
Inputs, default	128 byte
Outputs, default	128 byte
Digital channels	120 Dyte
Inputs	1 024
- of which central	1 024
• Outputs	1 024
of which central	1 024
Analog channels	
Inputs	256
 inputs — of which central 	256
Outputs	256
— of which central	256
Hardware configuration	200
Number of expansion units, max.	3
Number of DP masters	5
integrated	0
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
• Deviation per day, max.	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup period	the clock continues at the time of day it had when power was switched off
Operating hours counter	
• Number	1
Number/Number range	0
Range of values	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
retentive	Yes; Must be restarted at each restart
Clock synchronization	
supported	Yes
● to MPI, master	Yes
• to MPI, slave	Yes
• in AS, master	Yes
• in AS, slave	No
Digital inputs	
Number of digital inputs	0
Digital outputs	

Number of digital outputs	0
Number of digital outputs	0
Analog inputs	<u>.</u>
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of RS 485 interfaces	1; MPI
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	No
Interface types	
• RS 485	Yes
Output current of the interface, max.	200 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	No
PROFIBUS DP slave	No
Point-to-point connection	No
MPI	
• Transmission rate, max.	187.5 kbit/s
Services	
— PG/OP communication	Yes
- Routing	No
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes; Only server, configured on one side
— S7 communication, as client	No
— S7 communication, as server	Yes
Protocols PROFIsafe	No
communication functions / header	No
PG/OP communication	Yes
Data record routing Global data communication	No
supported	Yes
Number of GD loops, max.	8
 Number of GD packets, max. Number of GD packets, transmitter, max. 	8
 Number of GD packets, transmitter, max. Number of GD packets, receiver, max. 	8
 Number of GD packets, receiver, max. Size of GD packets, max. 	o 22 byte
-	
 Size of GD packet (of which consistent) may 	
Size of GD packet (of which consistent), max. S7 basic communication	22 byte
S7 basic communication	22 byte
S7 basic communication • supported	22 byte Yes
S7 basic communication • supported • User data per job, max.	22 byte Yes 76 byte
S7 basic communication • supported	22 byte Yes
S7 basic communication • supported • User data per job, max.	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server as client 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes Yes; Via CP and loadable FB
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server as client User data per job, max. 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes Yes; Via CP and loadable FB 180 byte; With PUT/GET
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server as client User data per job, max. User data per job (of which consistent), max. 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes Yes; Via CP and loadable FB 180 byte; With PUT/GET
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server as client User data per job, max. User data per job (of which consistent), max. S5 compatible communication 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes Yes; Via CP and loadable FB 180 byte; With PUT/GET 240 byte; as server
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server as client User data per job, max. User data per job, max. User data per job (of which consistent), max. S5 compatible communication supported 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes Yes; Via CP and loadable FB 180 byte; With PUT/GET 240 byte; as server
 S7 basic communication supported User data per job, max. User data per job (of which consistent), max. S7 communication supported as server as client User data per job, max. User data per job, max. User data per job (of which consistent), max. S5 compatible communication supported Number of connections 	22 byte Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) Yes Yes Yes; Via CP and loadable FB 180 byte; With PUT/GET 240 byte; as server Yes; via CP and loadable FC

— adjustable for PG communication, min.	1
— adjustable for PG communication, max.	11
 usable for OP communication 	11
 reserved for OP communication 	1
 adjustable for OP communication, min. 	1
 — adjustable for OP communication, max. 	11
 usable for S7 basic communication 	8
 reserved for S7 basic communication 	0
 — adjustable for S7 basic communication, min. 	0
 — adjustable for S7 basic communication, max. 	8
S7 message functions	
Number of login stations for message functions, max.	12; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	300
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
Status/control variable	Yes
Variables	Inputs, outputs, memory bits, DB, times, counters
Number of variables, max.	30
- of which status variables, max.	30
— of which control variables, max.	14
Forcing	
	Yes
Forcing Forcing	
Forcing, variables	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
• present	Yes
Number of entries, max.	500
— adjustable	No
— of which powerfail-proof	100; Only the last 100 entries are retained
 Number of entries readable in RUN, max. 	499
— adjustable	Yes; From 10 to 499
— preset	10
Service data	
• can be read out	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
configuration / header	
Configuration software	
• STEP 7	Yes; V5.2 SP1 or higher with HW update
configuration / programming / header	
Command set	see instruction list
Nesting levels	8
System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— T 55 — STL	Yes
— STL — SCL	Yes
- CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
 User program protection/password protection 	Yes

Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	280 g

last modified:

8/24/2021 🖸