6ES7315-2EH14-0AB0

Data sheet



SIMATIC S7-300 CPU 315-2 PN/DP, Central processing unit with 384 KB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information	
HW functional status	01
Firmware version	V3.2
Product function	
 Isochronous mode 	Yes; Via PROFIBUS DP or PROFINET interface
Engineering with	
 Programming package 	STEP 7 V5.5 or higher
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 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)	750 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	4 A
l²t	1 A²-s
Power loss	
Power loss, typ.	4.65 W
Memory	
Work memory	
• integrated	384 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.	0.05 μs
for word operations, typ.	0.09 µs
for fixed point arithmetic, typ.	0.12 µs
for floating point arithmetic, typ.	0.45 µs
CPU-blocks	

Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
Number, max.	1 024; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	·
Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	1; OB 10
Number of delay alarm OBs	2; OB 20, 21
Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35
Number of cyclic interrupt OBs Number of process alarm OBs	4, OB 32, 33, 34, 33 1; OB 40
Number of process alarm Obs Number of DPV1 alarm OBs	3; OB 55, 56, 57
Number of isochronous mode OBs Number of startup OBs	1; OB 61
Number of startup OBs	1; OB 100
Number of asynchronous error OBs	6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
 per priority class 	16
additional within an error OB	4
ounters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	256
Retentivity	
— adjustable	Yes
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
ata areas and their retentivity	Chairmica (minica only by IVAIN capacity)
	128 khyto
Retentive data area (incl. timers, counters, flags), max.	128 kbyte
Flag	0.040 h.t.
• Size, max.	2 048 byte
Retentivity available	Yes; MB 0 to MB 2 047
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	
 Retentivity adjustable 	Yes; via non-retain property on DB

Retentivity preset	Yes
Local data	100
per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	2
I/O address area	
• Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	20.000,00
— Inputs	2 048 byte
— Outputs	2 048 byte
Process image	
• Inputs	2 048 byte
Outputs	2 048 byte
 Inputs, adjustable 	2 048 byte
 Outputs, adjustable 	2 048 byte
 Inputs, default 	128 byte
Outputs, default	128 byte
Subprocess images	
Number of subprocess images, max.	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	
• Inputs	16 384
— of which central	1 024
Outputs	16 384
— of which central	1 024
Analog channels	
• Inputs	1 024
— of which central	256
Outputs	1 024
— of which central	256
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	,
• integrated	1
via CP Number of energible EMs and CDs (recommended)	4
Number of operable FMs and CPs (recommended)	0
• FM	8
• CP, PtP	8 10
• CP, LAN	10
Rack Racks, max.	4
Modules per rack, max.	8
Time of day	0
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
• on MPI, device	Yes
• to DP master	Voc: With DB clave only clave clock
to DP, master	Yes; With DP slave only slave clock

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1, 2 ports (switch) RJ45		
1. Combined MPI / PROFIBUS DP	Number of industrial Ethernet interfaces	1; 2 ports (switch) RJ45
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Interface type Interface type Interface types • RS 485 • Cutput current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP master • PROFIBUS DP master • PROFIBUS DP momention MPI • Transmission rate, max. Services - PC/OP communication - S7 basic communication - S7 communication, as client - S7 communication, as server • Transmission rate, max. 12 Mbit/s Services - PC/OPD master • Transmission rate, max. 12 Mbit/s - SY communication - S7 communication, as client - S7 communication, as server PCOFIBUS DP master • Transmission rate, max.	Number of RS 485 interfaces	1; Combined MPI / PROFIBUS DP
Interface type Interface type Interface types RS 485 RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP device dev	Number of RS 422 interfaces	0
Isolated (interface types RS 485 Output current of the interface, max. 200 mA Protocols MPI PROFIBUS DP master Yes PROFIBUS DP master Yes PROFIBUS DP device Yes Profice of the interface of	1. Interface	
RS 485	Interface type	Integrated RS 485 interface
RS 485 Output current of the interface, max. 200 mA Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Routing	Isolated	Yes
Protocols MPI MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. 12 Mbit/s Services — PG/OP communication — S7 communication, as server PROFIBUS DP master Transmission rate, max. 12 Mbit/s Services — PG/OP communication — S7 communication — S7 communication — S7 communication, as server PROFIBUS DP master Transmission rate, max. 12 Mbit/s Wes Wes Wes Wes Wes Wes Wes W	Interface types	
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■ Transmission rate, max. Services		No
Services - PG/OP communication Yes - Routing Yes - Global data communication Yes - S7 basic communication Yes - S7 communication Yes - S7 communication Yes - S7 communication, as client No; but via CP and loadable FB - S7 communication, as server Yes PROFIBUS DP master • Transmission rate, max. 12 Mbit/s • max. number of DP devices 124 Services - PG/OP communication Yes - Routing Yes - Routing Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication, as client No - S7 communication, as client No - S7 communication, as server Yes - Equidistance Yes - I sochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO - SYNC/FREEZE - activation/deactivation of DP devices Yes - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-lo-slave communication) - DPV1 Address area		
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- Routing Yes - Global data communication Yes - S7 basic communication Yes - S7 basic communication - S7 basic communication - S7 communication, as client - S7 communication, as server PROFIBUS DP master ● Transmission rate, max. 12 Mbit/s ● max. number of DP devices Services - PG/OP communication Yes - Routing Yes - Global data communication Yes; I blocks only - S7 communication Yes - S8 Communication Yes - S9 Communication S9 Communication S9 Communication Yes - S9 Communication S9 Communi		V
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- S7 communication, as client - S7 communication, as client - S7 communication, as server PROFIBUS DP master • Transmission rate, max. • max. number of DP devices - S7 communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - Address area		
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PROFIBUS DP master ● Transmission rate, max. ● max. number of DP devices 124 Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - DPv1 Address area		
PROFIBUS DP master ● Transmission rate, max. ● max. number of DP devices 124 Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 Address area	•	
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 ◆ max. number of DP devices Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server — Equidistance — Isochronous mode — S9NC/FREEZE — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 — Address area 		12 Mbit/s
Services		
PG/OP communication Positing Positing Position P		
- Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - S7 basic communication - No - Yes; I blocks only - Yes - No - Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS - Yes - Yes - Yes - Yes - Yes - S8		Yes
- Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - S7 basic communication - Yes; I blocks only - Yes - No - Yes - No - Yes - Mo - SYNC/FREEZE - Mo - SYNC/FREEZE - Yes - Mo		
- S7 basic communication - S7 communication - S7 communication, as client - S7 communication, as client - S7 communication, as server - S7 communication, as server - Equidistance - Isochronous mode - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - S7 blocks only - Yes - No - Yes - Yes - Yes - Yes - Yes - Wes	•	
 — S7 communication, as client — S7 communication, as server — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes Yes; as subscriber Yes Yes Yes Yes Yes Yes Yes Yes Address area		
- S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - S7 communication, as server Yes Yes Yes Yes Yes Yes 8 8 4 Yes; as subscriber Yes; as subscriber Yes; as subscriber		
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— Isochronous mode — SYNC/FREEZE — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO Yes Yes Yes Yes 8 8 Yes; as subscriber Yes; as subscriber	 S7 communication, as server 	Yes
DP or PROFINET IO - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 Address area	— Equidistance	Yes
 — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes Yes	— Isochronous mode	
 max. number of DP devices that can be activated/deactivated at the same time Direct data exchange (slave-to-slave communication) DPV1 Address area 8 Yes; as subscriber Yes Yes	— SYNC/FREEZE	Yes
activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes; as subscriber Yes Yes	 activation/deactivation of DP devices 	Yes
communication) — DPV1 Yes Address area		8
Address area		Yes; as subscriber
	— DPV1	Yes
— Inputs, max. 2 kbyte		
	— Inputs, max.	2 kbyte

— Outputs, max.	2 kbyte
PROFIBUS DP slave	
Transmission rate, max.	12 Mbit/s
automatic baud rate search	Yes; only with passive interface
Address area, max.	32
User data per address area, max.	32 byte
Services	,-
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	No
— S7 communication, as server	Yes; Connection configured on one side only
Direct data exchange (slave-to-slave)	Yes
communication)	
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes
Interface types	
 RJ 45 (Ethernet) 	Yes
 Number of ports 	2
integrated switch	Yes
Protocols	
• MPI	No
 PROFINET IO Controller 	Yes; Also simultaneously with IO-Device functionality
PROFINET IO Device	Yes; Also simultaneously with IO Controller functionality
PROFINET CBA	Yes
 PROFIBUS DP master 	No
 PROFIBUS DP device 	No
 Open IE communication 	Yes; Via TCP/IP, ISO on TCP, and UDP
Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
— S7 communication	Yes; With loadable FBs, max. configurable connections: 14, max. number of instances: 32
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO
— IRT	Yes
— Shared device	Yes
— Prioritized startup	Yes
 Number of IO devices with prioritized startup, max. 	32
 Number of connectable IO Devices, max. 	128
 Of which IO devices with IRT, max. 	64
— of which in line, max.	64
 Number of IO Devices with IRT and the option "high flexibility" 	128
— of which in line, max.	61
 Number of connectable IO Devices for RT, max. 	128

Activation/deactivation of IO Devices	Yes
 Number of IO Devices that can be simultaneously activated/deactivated, max. 	8
 — IO Devices changing during operation (partner ports), supported 	Yes
 Number of IO Devices per tool, max. 	8
 Device replacement without swap medium 	Yes
— Send cycles	$250~\mu s, 500~\mu s, 1~ms;~2~ms,~4~ms$ (not in the case of IRT with "high flexibility" option)
— Updating time	250 µs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details)
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data consistency, max.	1 024 byte
PROFINET IO Device	
Services	
 PG/OP communication 	Yes
— Routing	Yes
— S7 communication	Yes; With loadable FBs, max. configurable connections: 14, max. number of instances: 32
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	2
Transfer memory	
— Inputs, max.	1 440 byte; Per IO Controller with shared device
— Outputs, max.	1 440 byte; Per IO Controller with shared device
Submodules	
— Number, max.	64
User data per submodule, max.	1 024 byte
PROFINET CBA	
acyclic transmission	Yes
cyclic transmission	Yes
Open IE communication	
Number of connections, max.	8
Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Keep-alive function, supported	Yes
Protocols	
PROFIsafe	No
Redundancy mode	
Media redundancy	
Switchover time on line break, typ.	200 ms; PROFINET MRP
Number of stations in the ring, max.	50
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
Number of connections, max.	8
Data length for connection type 01H, max.	1 460 byte
Data length for connection type of H, max. Data length for connection type 11H, max.	32 768 byte
— several passive connections per port, supported	
— several passive confiscions per port, supported	Yes
■ ISO-on-TCP (REC1006)	Yes Ves: via integrated PROFINET interface and loadable FRs
ISO-on-TCP (RFC1006) Number of connections, may	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.— Data length, max.	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte
— Number of connections, max.— Data length, max.• UDP	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs
 Number of connections, max. Data length, max. UDP Number of connections, max. 	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 8
 — Number of connections, max. — Data length, max. • UDP — Number of connections, max. — Data length, max. 	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs
 Number of connections, max. Data length, max. UDP Number of connections, max. Data length, max. Web server	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 8 1 472 byte
 Number of connections, max. Data length, max. UDP Number of connections, max. Data length, max. Web server supported 	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 8 1 472 byte Yes
 Number of connections, max. Data length, max. UDP Number of connections, max. Data length, max. Web server	Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 8 1 472 byte

communication functions / header	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
• supported	Yes
Number of GD loops, max.	8
Number of GD packets, max.	8
 Number of GD packets, transmitter, max. 	8
 Number of GD packets, receiver, max. 	8
Size of GD packets, max.	22 byte
 Size of GD packet (of which consistent), max. 	22 byte
S7 basic communication	
supported	Yes
User data per job, max.	76 byte
User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes; via integrated PROFINET interface and loadable FB or via CP and
	loadable FB
User data per job, max.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)
S5 compatible communication	
• supported	Yes; via CP and loadable FC
communication functions / PROFINET CBA (with set target commu	nication load) / header
 Setpoint for the CPU communication load 	50 %
 Number of remote interconnection partners 	32
 number of master/device functions 	30
 total of all master/device connections 	1 000
 data length of all incoming master/device connections, max. 	4 000 byte
 data length of all outgoing master/device connections, max. 	4 000 byte
 Number of device-internal and PROFIBUS interconnections 	500
 Data length of device-internal und PROFIBUS interconnections, max. 	4 000 byte
Data length per connection, max.	1 400 byte
performance data / PROFINET CBA / remote interconnection /	with acyclic transfer / header
— Sampling interval, min.	500 ms
 Number of incoming interconnections 	100
 Number of outgoing interconnections 	100
 Data length of all incoming interconnections, max. 	2 000 byte
 Data length of all outgoing interconnections, max. 	2 000 byte
 data volume / as user data for remote interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum 	1 400 byte
performance data / PROFINET CBA / remote interconnection /	with cyclic transfer / header
Transmission frequency: Transmission interval, min.	10 ms
Number of incoming interconnections	200
Number of outgoing interconnections	200
Data length of all incoming interconnections, max.	2 000 byte
Data length of all outgoing interconnections, max.	2 000 byte
— data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum	450 byte
performance data / PROFINET CBA / HMI variables via PROF	INET / acyclic / header
Number of stations that can log on for HMI variables (PN OPC/iMap)	3; 2x PN OPC/1x iMap
HMI variable updating	500 ms
— Number of HMI variables	200
 Data length of all HMI variables, max. 	2 000 byte

— supported	Yes
Number of linked PROFIBUS devices	16
Data length per connection, max.	240 byte; Slave-dependent
Number of connections	
• overall	16
 usable for PG communication 	15
 reserved for PG communication 	1
 adjustable for PG communication, min. 	1
 adjustable for PG communication, max. 	15
 usable for OP communication 	15
 reserved for OP communication 	1
 adjustable for OP communication, min. 	1
 adjustable for OP communication, max. 	15
 usable for S7 basic communication 	14
 reserved for S7 basic communication 	0
 adjustable for S7 basic communication, min. 	0
 adjustable for S7 basic communication, max. 	14
usable for S7 communication	14
 reserved for S7 communication 	0
adjustable for S7 communication, min.	0
adjustable for S7 communication, max.	14
 total number of instances, max. 	32
usable for routing	X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max.
07	14; X2 as PROFINET: 24 max.
S7 message functions	40. Describer on the confirmed connections for DO/OD and O7 having
Number of login stations for message functions, max.	16; 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	
Forcing	Yes
ForcingForcing, variables	Yes Inputs, outputs
• Forcing, variables	Yes Inputs, outputs 10
Forcing, variablesNumber of variables, max.	Inputs, outputs
Forcing, variablesNumber of variables, max.Diagnostic buffer	Inputs, outputs
 Forcing, variables Number of variables, max. Diagnostic buffer present 	Inputs, outputs 10 Yes
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. 	Inputs, outputs 10
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable 	Inputs, outputs 10 Yes 500 No
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof 	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof Number of entries readable in RUN, max. 	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof Number of entries readable in RUN, max. — adjustable 	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof Number of entries readable in RUN, max. — adjustable — preset 	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions Ambient temperature during operation	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions Ambient temperature during operation min.	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions Ambient temperature during operation min. max.	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions Ambient temperature during operation min. max. configuration / header	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions Ambient temperature during operation min. max. configuration / header Configuration software	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes 0 °C 60 °C
Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Ambient conditions Ambient temperature during operation min. max. configuration / header	Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes

 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
— STL	Yes
— 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.	340 g

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