6ES7317-2FK14-0AB0

Data sheet



SIMATIC S7-300 CPU317F-2 PN/DP, Central processing unit with 1.5 MB 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, Distributed Safety V5.4 SP4
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 A ² ·s
Power loss	
Power loss, typ.	4.65 W
Memory	
Work memory	
integrated	1 536 kbyte
expandable	No
Load memory	
Plug-in (MMC)	Yes
Plug-in (MMC), max.	8 Mbyte
 Data management on MMC (after last programming), min. 	10 y
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.025 μs
for word operations, typ.	0.03 μs
for fixed point arithmetic, typ.	0.04 μs

for floating point arithmetic, typ.	0.16 μs
CPU-blocks	0.10 pc
Number of blocks (total)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can
	be reduced by the MMC used.
DB	
Number, max.	2 048; Number range: 1 to 16000
Size, max.	64 kbyte
FB	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	C4 libida
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs Number of delay clarm OBs	1; OB 10
Number of delay alarm OBsNumber of cyclic interrupt OBs	2; OB 20, 21 4; OB 32, 33, 34, 35
Number of cyclic interrupt OBs Number of process alarm OBs	4, OB 32, 33, 34, 35 1; OB 40
Number of DPV1 alarm OBs	3; OB 55, 56, 57
Number of Br V Falanti OBs Number of isochronous mode OBs	1; OB 61 - isochronous mode is possible either on DP or PROFINET IO
	(not simultaneously)
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	40
per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	F40
Number Potentinitus	512
Retentivity	Vee
— adjustable — lower limit	Yes 0
— upper limit	511
— preset	Z 0 to Z 7
Counting range	201021
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	512
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	511
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
Missanda a a	Unlimited (limited only by RAM capacity)
Number	Offill filled (liftilled of ly by TV-W capacity)

Retentive data area (incl. timers, counters, flags), max. Flag	256 kbyte
	4 000 h. to
	4 096 byte
•	Yes; From MB 0 to MB 4 095
Retentivity preset	MB 0 to MB 15
	8; 1 memory byte
Data blocks	
	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	
I/O address area	
• Inputs	8 192 byte
Outputs	8 192 byte
of which distributed	·
— Inputs	8 192 byte
	8 192 byte
Process image	
	8 192 byte
·	8 192 byte
	8 192 byte
	8 192 byte 256 byte
Outputs, default	256 byte
Subprocess images	A MANUEL PROFINITION OF THE STATE OF THE STA
 Number of subprocess images, max. 	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	bytes
-	65 526
• Inputs	65 536
— of which central	1 024
Outputs	65 536
— of which central	1 024
Analog channels	
• Inputs	4 096
— of which central	256
Outputs	4 096
— of which central	256
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
• Racks, max.	4
	8
Modules per rack, max. Time of day.	
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
_	the clock continues at the time of day it had when power was switched
 Behavior of the clock following expiry of backup 	the clock continues at the time of day it had when power was switched
Behavior of the clock following expiry of backup period	off

N	
• Number	4
Number/Number range	0 to 3
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	V
• supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
• to DP, slave	Yes
• in AS, master	Yes
• in AS, slave	Yes
on Ethernet via NTP	Yes; As client
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Interfaces	
Number of industrial Ethernet interfaces	1
Number of PROFINET interfaces	1
Number of RS 485 interfaces	1
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
 Output current of the interface, max. 	200 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP slave	Yes
Point-to-point connection	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	Yes
 S7 basic 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
 Number of DP slaves, max. 	124
Services	
— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	No
 S7 basic communication 	Yes; I blocks only
— S7 communication	Yes
 S7 communication, as client 	
or communication, as short	No
— S7 communication, as server	No Yes

Fauldistance	Voc
— Equidistance	Yes OR 64 isoshranova mode can only be used alternatively an
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO
— SYNC/FREEZE	Yes
Activation/deactivation of DP slaves	Yes
Number of DP slaves that can be	8
simultaneously activated/deactivated, max.	0
Direct data exchange (slave-to-slave)	Yes; as subscriber
communication)	
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
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 slave	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: 16, max. number of instances: 32
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on
IDT	PROFIBUS DP or PROFINET IO
— IRT — Shared device	Yes 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 	128
"high flexibility"	
— of which in line, max.	61
 Number of connectable IO Devices for RT, 	128
max.	400
— of which in line, 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)	Yes
ports), supported	
Number of IO Devices per tool, max.	8
 Device replacement without swap medium 	Yes
— Send cycles	250 μs, 500 μs, 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.	8 kbyte
— Outputs, max.	8 kbyte
User data consistency, max.	1 024 byte
PROFINET IO Device	
Services	
Services — PG/OP communication	Yes
Services	Yes
Services — PG/OP communication	
Services — PG/OP communication — Routing	Yes Yes; with loadable FBs, max. configurable connections: 16, max.
Services — PG/OP communication — Routing — S7 communication	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
Services — PG/OP communication — Routing — S7 communication — Isochronous mode	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device,	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission Open IE communication	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission Open IE communication • Number of connections, max.	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes Yes Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission Open IE communication • Number of connections, max. • Local port numbers used at the system end	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes Yes Yes Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • cyclic transmission Open IE communication • Number of connections, max. • Local port numbers used at the system end • Keep-alive function, supported	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes Yes Yes Yes
Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Keep-alive function, supported Protocols	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes Yes Yes Yes

Madia vadundanci	
Media redundancy	200 may DDOEINET MDD
— Switchover time on line break, typ.	200 ms; PROFINET MRP
— Number of stations in the ring, max.	50
Open IE communication	Vacantia interpretad DDOCINET interface and leadable ED
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	16
— Data length for connection type 01H, max.	1 460 byte
— Data length for connection type 11H, max.	32 768 byte
 several passive connections per port, supported 	Yes
• ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	16
— Data length, max.	32 768 byte
• UDP	Yes; via integrated PROFINET interface and loadable FBs
 Number of connections, max. 	16
— Data length, max.	1 472 byte
Web server	
• supported	Yes
User-defined websites	Yes
 Number of HTTP clients 	5
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
S7 communication	X_GET as server)
	Voc
• supported	Yes
as server as a client	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 c	·
Setpoint for the CPU communication load	50 %
Number of remote interconnection partners	32
Number of functions, master/slave	30
Total of all master/slave connections	1 000
Data length of all incoming connections master/slave, max.	4 000 byte
 Data length of all outgoing connections master/slave, max. 	4 000 byte
 Number of device-internal and PROFIBUS interconnections 	500
 Data length of device-internal und PROFIBUS interconnections, max. 	4 000 byte
	4 400 5 4 5
Data length per connection, max.	1 400 byte
Data length per connection, max. performance data / PROFINET CBA / remote interconnection.	·
	·

 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 length per connection, max. 	1 400 byte
performance data / PROFINET CBA / remote interconnec	
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 length per connection, max.	450 byte
performance data / PROFINET CBA / HMI variables via I	•
Number of stations that can log on for HMI	3; 2x PN OPC/1x iMap
variables (PN OPC/iMap)	,
— HMI variable updating	500 ms
Number of HMI variables	200
 Data length of all HMI variables, max. 	2 000 byte
performance data / PROFINET CBA / PROFIBUS proxy	
— supported	Yes
Number of linked PROFIBUS devices	16
Data length per connection, max.	240 byte; Slave-dependent
Number of connections	, , , , , , , , , , , , , , , , , ,
• overall	32
usable for PG communication	31
reserved for PG communication	1
	1
— adjustable for PG communication, min.— adjustable for PG communication, max.	31
adjustable for PG communication, max. usable for OP communication	31
— reserved for OP communication	1
— adjustable for OP communication, min.	1
— adjustable for OP communication, max.	31
usable for S7 basic communication	30
— reserved for S7 basic communication	0
— adjustable for S7 basic communication, min.	0
 adjustable for S7 basic communication, max. 	30
 usable for S7 communication 	16
 reserved for S7 communication 	0
 adjustable for S7 communication, min. 	0
 adjustable for S7 communication, max. 	16
 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. 14; X2 as PROFINET: 24 max.
S7 message functions	
Number of login stations for message functions, max.	32; 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	7
	Voc
Status/control variable Variables	Yes
Variables Number of variables, many	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
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; V5.5 or higher
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
— 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
Pr	
Weights	
Weights Weight, approx.	340 g

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