Data sheet

6ES7317-2FK14-0AB0



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 a
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
	0.025 μs
for bit operations, typ.	
for bit operations, typ. for word operations, typ.	0.03 µs
•	0.03 μs 0.04 μs
for word operations, typ.	

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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	
• 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 Number of process clarge OBs	4; OB 32, 33, 34, 35
Number of process alarm OBs Number of DDV/4 slarm OBs	1; OB 40
Number of DPV1 alarm OBs Number of isosphaneus mode OBs	3; OB 55, 56, 57
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	
 per priority class 	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	
Number	512
Retentivity	V
— adjustable	Yes
— lower limit	0
— upper limit	511 Z 0 to Z 7
— preset 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
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	256 kbyte
Flag	
Size, max.	4 096 byte

Retentivity available	Yes; From MB 0 to MB 4 095
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	
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
— Outputs	8 192 byte
Process image	
Inputs	8 192 byte
Outputs	8 192 byte
 Inputs, adjustable 	8 192 byte
 Outputs, adjustable 	8 192 byte
• Inputs, default	256 byte
Outputs, default	256 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	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
Modules per rack, max.	8
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
	103
Backup time	
Backup time Deviation per day, max.	6 wk; At 40 °C ambient temperature
Deviation per day, max.	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s
Deviation per day, max.Behavior of the clock following POWER-ON	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF
 Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period 	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s
 Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
 Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number 	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
 Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number/Number range 	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 4 0 to 3
 Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number/Number range Range of values 	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 4 0 to 3 0 to 2^31 hours (when using SFC 101)
 Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number/Number range 	6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 4 0 to 3

Clock synchronization	
Clock synchronization • 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	165, 75 01611
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	
	Integrated RS 485 interface
Interface type Isolated	Yes
Interface types	165
• RS 485	Yes
Output current of the interface, max.	200 mA
Protocols	200 111/1
• 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 	No
 S7 communication, as server 	Yes
— Equidistance	Yes
— 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
 — Activation/deactivation of DP slaves — Number of DP slaves that can be simultaneously activated/deactivated, max. 	Yes 8

Direct data sychones (alaya to slove	Voc. or subscriber
 — Direct data exchange (slave-to-slave communication) 	Yes; as subscriber
— 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 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 (D Devices, max.) - Of which in line, max of which in line, max Number of D Devices with IRT and the option "high floxibility" - of which in line, max A which in line, max of which in line, max of which in line, max A which in line, max Which in line, line, max Which in line, line, max Which in line, max Which in line, max Which in line, max Which in line, lin	 Of which IO devices with IRT, max. of which in line, max. Number of IO Devices with IRT and the option "high flexibility" of which in line, max. Number of connectable IO Devices for RT, max. 	64 64 128 61 128 128 Yes
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- Number of IO Devices with IRT and the option 'high flexibility' - of which in line, max. - Number of connectable IO Devices for RT, max. - Of which in line, max. - Activation/deactivation of IO Devices - Number of IO Devices that can be simultaneously activated/deactivated, max. - IO Devices that can be simultaneously activated/deactivated, max. - IO Devices changing during operation (partner ports), supported - Number of IO Devices per tool, max. - Device replacement without swap medium - Send cycles - Device replacement without swap medium - Send cycles - Updating time - Upda	 Number of IO Devices with IRT and the option "high flexibility" of which in line, max. Number of connectable IO Devices for RT, max. 	128 61 128 128 Yes
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- Number of IO Devices per tool, max Device replacement without swap medium - Send cycles - Send cycles - Updating time - 250 µs, 500 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option) - Updating time - 250 µs, 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 Outputs, max Outputs, max User data consistency, max User data consistency, max PROFINET IO Device - Services - PGIOP communication - Yes - Routing - Sr communication - Yes - Isochronous mode - IRT - PROFlenergy - Sharred device - Number of IO Controllers with shared device, max PROFlenergy - Inputs, max User data per submodule, max Outputs, max User data per submodule, max Output transmission - Ves - Aumber of connections, max User data per submodule, max Output function, supported - Number of connections, max User data per submodule, max Output function, supported - Number of connections, max User data per submodule, max Output function, supported - Newber of connections, max User data per submodule, max Outputs function, supported - Number of connections, max User data per submodule, max Outputs function, supported - Number of connections, max Outputs function, supported - Yes - Redundancy - Switchover time on line break, typ Number of sations in the ring, max So Open Its communication - Number of connections in the ring, max So Open Its communication - Number of connections, max So Open Its communication - Number of connections, max So Open Its communication - TCPIIP - Number of connections, max So Open Its communication - TCPIIP - Number of connections, max So Open Its communication - TCPIIP - Number of connections, max So Open Its communication - TCPIIP - Number of connections, max.	— IO Devices changing during operation (partner	Yes
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- Send cycles - Updating time - Updating time - 280 us 510 us, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option) - Updating time - 280 us 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 Updating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details) - Updating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details) - Updating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details) - Updating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details) - Updating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details) - Updating mode, see Manual "S7-300 CPU 31xC and C	·	
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Address area	— Seria cycles	
- Inputs, max. 8 kbyte - Outputs, max. 8 kbyte - Outputs, max. 9 kbyte - User data consistency, max. 1 024 byte PROFINET IO Device Services - PG(DP communication Yes - Routing Yes - PG(DP communication Yes with loadable FBs, max. configurable connections: 16, max. number of instances: 32 - Isochronous mode No - IRT Yes - PROFienergy 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 Submodules - Number, max. 64 - Outputs, max. 1 440 byte; Per IO Controller with shared device Submodules - Number, max. 64 - a cyclic transmission Yes - oyolic transmission Yes Open IE communication Yes Open IE communication Yes PROFisale Yes Redundancy - Switchover time on line break, typ. 50 - Switchover time on line break, typ. 50 - Number of stations in the ring, max. 50 Open IE communication - Number of stations in the ring, max. 50 Open IE communication - Switchover time on line break, typ. 50 - Switchover time on line break, typ. 50 - 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. 16	— Updating time	250 µs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU
- Outputs, max User data consistency, max User data consistency, max. - PGOP communication - PGOP communication - Routing - S7 communication - IRT - PROFINET T - PROFilenergy - Shared device - Number of IO Controllers with shared device, max Inputs, max Outputs, max Outputs, max User data per submodule, max User data per submodule, max Cyclic transmission - Royclic transmission - Number of connections, max Number of connections, max Local port numbers used at the system end - Number of connections, max Number of sations, max Local port numbers used at the system end - Number of connections, max Number of sations, max Number of connections, max Number of sations in the fing, max Number of stations in the fing, max Number of connections, max Number of stations in the fing, max Number of connections, max Number of connections, max Number of stations in the fing, max Number of connections, max Number of connections, max Number of stations in the fing, max Number of connections, max.	Address area	
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- Routing Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 - Isochronous mode No - IRT Yes - PROFlenery Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for IDevice - Shared device Yes - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max Outputs, max Outputs, max Outputs, max User data per submodule, max User data per submodule, max User data per submodule, max expelic transmission - expelic transmission - expelic transmission - (xes) - (xes		
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- IRT - PROFlenergy - Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max Outputs, max. 1 440 byte; Per IO Controller with shared device Submodules - Number, max User data per submodule, max. 1 024 byte PROFINET CBA • acyclic transmission • Cyclic transmission • Number of connections, max Local port numbers used at the system end - Local port numbers used at the system end - Cyclic transmission - Keep-alive function, supported PROFISafe Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. 50 Open IE communication - TCP/IP - Number of connections, max. 50 Open IE communication - Yes Yes Profine Redundancy - Switchover time on line break, typ Number of stations in the ring, max. 50 Open IE communication - TCP/IP - Number of connections, max. 16 - Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max.		instances: 32
PROFlenergy Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device — Shared device — Number of IO Controllers with shared device, max. 2 Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max. — 1 024 byte PROFINET CBA • acyclic transmission • yes Open IE communication • Number of connections, max. • 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 Protocols PROFIsafe Yes Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. 50 Open IE communication • TCP/IP — Number of connections, max. 16		
Device - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max Outputs, max. 1 440 byte; Per IO Controller with shared device Submodules - Number, max User data per submodule, max. PROFINET CBA acyclic transmission cyclic transmission ves - vyclic transmission Number of connections, max Local port numbers used at the system end - Cozal port numbers used at the system end - Republic for some system of the system end - Specific for some system of the system end - Specific for some system of the system end - Redundancy mode - Switchover time on line break, typ Number of stations in the ring, max Number of connections, max Number of stations in the ring, max Source of the system of th		
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Transfer memory Inputs, max. Inputs, max. Ut 440 byte; Per IO Controller with shared device Inputs, max. Inpu		
- Inputs, max Outputs, max. 1 440 byte; Per IO Controller with shared device - Outputs, max. 1 440 byte; Per IO Controller with shared device Submodules - Number, max. 4 1 024 byte PROFINET CBA • acyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Local port numbers used at the system end • Keep-alive function, supported PROFISafe PROFISafe PROFISafe PRotocols PROFIsafe Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. Open IE communication • TCP/IP - Number of connections, max. 1 440 byte; Per IO Controller with shared device 64 0 44 0 44 0 44 0 54 0 64		4
Outputs, max. Submodules Number, max User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Keep-alive function, supported Protocols PROFISAE Redundancy mode Media redundancy Switchover time on line break, typ Number of stations in the ring, max. • TCP/IP Number of connections, max. 1 440 byte; Per IO Controller with shared device 64 44 44 44 44 45 46 47 48 49 49 49 49 49 49 49 49 49	•	1 440 byte: Per IO Controller with chared daying
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 • Keep-alive function, supported Protocols PROFIsafe Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. Open IE communication • TCP/IP - Number of connections, max. 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Yes PROFISafe Yes 200 ms; PROFINET MRP - Number of stations in the ring, max. 50 Open IE communication • TCP/IP - Number of connections, max. 16	• /	
- Number, max User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Keep-alive function, supported Protocols PROFIsafe Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. • TCP/IP - Number of connections, max. 64 1 024 byte Pyes 9 0 1 024 byte 2 020 ms; 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65534, 65535 2 02 02 02 03 03 03 03 03 03 03 03 03 03 03 03 03		1 440 byte, 1 ct 10 contituitet with shared device
— User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Keep-alive function, supported Protocols PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. • TCP/IP — Number of connections, max. 1 024 byte Yes Yes 1 024 byte 1 024		64
PROFINET CBA • acyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Keep-alive function, supported Protocols PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. • TCP/IP — Number of connections, max. Yes Yes Yes Yes Yes 200 ms; PROFINET MRP Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 16 Yes Yes 200 ms; via integrated PROFINET interface and loadable FBs — Number of connections, max.		
 acyclic transmission cyclic transmission Yes Open IE communication Number of connections, max. Local port numbers used at the system end 6, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Protocols PROFIsafe Yes Redundancy mode Media redundancy Switchover time on line break, typ. Number of stations in the ring, max. Open IE communication TCP/IP Yes; via integrated PROFINET interface and loadable FBs Number of connections, max. 		. 02.10,10
 cyclic transmission Open IE communication Number of connections, max. Local port numbers used at the system end Keep-alive function, supported Yes Protocols PROFIsafe Redundancy mode Media redundancy Switchover time on line break, typ. Number of stations in the ring, max. Open IE communication TCP/IP Number of connections, max. Yes Yes 200 ms; PROFINET MRP 50 Open IE communication TCP/IP Yes; via integrated PROFINET interface and loadable FBs Number of connections, max. 		Yes
Open IE communication Number of connections, max. Local port numbers used at the system end Keep-alive function, supported Protocols PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication TCP/IP — Number of connections, max. 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Yes Yes Yes 200 ms; PROFINET MRP 50 Open IE communication Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max.	·	
 Number of connections, max. 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 Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication TCP/IP — Number of connections, max. 16 		
Local port numbers used at the system end	·	16
PROFIsafe Yes 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. 16	·	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532,
PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. Yes Yes 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 16	Keep-alive function, supported	Yes
Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max.	Protocols	
Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. 16	PROFIsafe	Yes
— Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication ■ TCP/IP — Number of connections, max. 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max.	Redundancy mode	
 — Number of stations in the ring, max. 50 Open IE communication ▼ TCP/IP — Number of connections, max. 16 50 Yes; via integrated PROFINET interface and loadable FBs — 16 	Media redundancy	
Open IE communication ■ TCP/IP — Number of connections, max. Yes; via integrated PROFINET interface and loadable FBs 16	 Switchover time on line break, typ. 	200 ms; PROFINET MRP
• TCP/IP — Number of connections, max. Yes; via integrated PROFINET interface and loadable FBs 16	— Number of stations in the ring, max.	50
— Number of connections, max.	Open IE communication	
	• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Data length for connection type 01H, max. 1 460 byte	 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	 Data length for connection type 11H, max. 	32 768 byte
— several passive connections per port, supported Yes	 several passive connections per port, supported 	Yes
• ISO-on-TCP (RFC1006) Yes; via integrated PROFINET interface and loadable FBs	• ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	— 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. S7 basis communication.	22 byte
S7 basic communication	Voc
supported Hear data partials may	Yes 76 buts
User data per job, max. User data per job (of which consistent) read.	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
• as short	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	unication load) / header
 Setpoint for the CPU communication load 	50 %
 number of remote connection partners / with PROFINET CBA 	32
 number of technological functions / with PROFINET CBA / for master or slave 	30
 number of connections / with PROFINET CBA / for master or slave / total 	1 000
 data volume / of the input variables / with PROFINET CBA / for master or slave 	4 000 byte
 data volume / of the output variables / with PROFINET CBA / for master or slave 	4 000 byte
 number of internal and PROFIBUS interconnections / with PROFINET CBA / maximum 	500
 data volume / of internal and PROFIBUS interconnections / with PROFINET CBA / for master or slave 	4 000 byte
 data volume / with PROFINET CBA / per connection / maximum 	1 400 byte
performance data / PROFINET CBA / remote interconnection	/ with acyclic transfer / header
 update time / of the remote interconnections / in the case of acyclic transmission / with PROFINET CBA 	500 ms
 number of remote connections to input variables / in the case of acyclic transmission / with PROFINET CBA / maximum 	100
 number of remote connections to output variables / in the case of acyclic transmission / with PROFINET CBA / maximum 	100
 — data volume / as user data for remote interconnections with input variables / in the case of acyclic transmission / with PROFINET CBA 	2 000 byte
— data volume / as user data for remote interconnections with output variables / in the case of acyclic transmission / with PROFINET CBA — data volume / as user data for remote	2 000 byte 1 400 byte

interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum

S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step 14; X2 as PROFINET: 24 max. 32; Depending on the configured connections for PG/OP and S7 basic communication Yes 32; Depending on the configured connections for PG/OP and S7 basic communication Yes Yes Yes Yes Yes Yes Yes Ye	WILLI FROFINET CBA7 per connection / maximum	
oyclical transfer with PROFINET CBA — number of remote commercions to input variables / with PROFINET CBA / with cyclical transfer / with profile transfer t	performance data / PROFINET CBA / remote interconnection / v	with cyclic transfer / header
with PROFINET CBA / with cyclic transfer / miximum — unable of remote connections to output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / as user data for remote interconnections with input variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum performance data / PROFINET CBA / this variables was PROFINET / acyclic / header — unable in in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / maximum — data volume / as user data for this variables / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / maximum performance data / PROFINET CBA / procipitudes / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIN		10 ms
with cyclical transfer / with PROFILET CBA / maximum — data volume / a sucer data for remote interconnections with injut variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / a sucer data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / a sucer data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / a sucer data for remote history of the control		200
interconnections with input variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / a sucer data for remote interconnections / with cyclical transfer / with PROFINET CBA / maximum performance data / PROFINET CBA / Hill variables via PROFINET / acyclic / header — number of connectable HMI stations / for HIll variables / in the case of acyclic transmission / with PROFINET CBA — update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA — update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA — update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA — number of India variables / in the case of acyclic transmission / with PROFINET CBA / maximum — data volume / as user data for * HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum — data volume / as user data for * HMI variables / in the case of acyclic transmission / with PROFINET CBA / PROFIBUS proxy functionally / beader — product function / with PROFIBUS proxy functionally / beader — product function / with PROFIBUS proxy functionally / 240 byte; Stave-dependent with PROFIBUS functionally / with PROFINET CBA / prominection / maximum Number of connections • overall • usable for PG communication 1 — adjustable for ST basic communication 0 — adjustable for ST communication 0 — adjustable fo		200
interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum — data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum performance data / PROFINET CBA / per connection / maximum performance data / PROFINET CBA / mit variables / in the case of acyclic transmission / with PROFINET CBA — update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA — update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA — number of HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFINET CBA / maximum performance data / PROFINET CBA / PROFINET CBA / PROFIEUS proxy functionality / header — protuct function / with PROFINET CBA / PROFIEUS proxy functionality / header — protuct function / with PROFINET CBA / per connection / maximum / number of coupled PROFIBUS devices / with PROFINET CBA / per connection / maximum / number of coupled PROFIBUS proxy functionality / with PROFINET CBA / per connection / maximum / number of coupled proxy functionality / with PROFINET CBA / per connection / maximum / number of connections	interconnections with input variables / with cyclical	2 000 byte
interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum performance data / PROFINET CBA / per connection / maximum performance data / PROFINET CBA / per connection / maximum performance data / PROFINET CBA / per connection / maximum performance data / performance data / performance data / performance data / performance of the data of the profined of the data of the profined of the data of the performance of acyclic transmission / with PROFINET CBA / maximum — data volume / as used data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / maximum performance data / PROFINET CBA / maximum performance data / PROFINET CBA / per connection / maximum performance data / PROFINET CBA / per connection / maximum performance data / profined pe	interconnections with output variables / with cyclical	2 000 byte
- number of connectable HMI stations / for HMI variables / in the case of acyclic transmission / with PROFINET CBA - update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA - number of HMI variables / in the case of acyclic transmission / with PROFINET CBA - number of HMI variables / in the case of acyclic transmission / with PROFINET CBA / naximum - data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum - data volume / with PROFINET CBA / PROFIBUS proxy functionality / header - product functionality / with PROFIBUS proxy functionality / header - product functionality / with PROFIBUS devices / with PROFIBUS functionality /	interconnections / with cyclical transfer / with	450 byte
variables / in the case of acyclic transmission / with PROFINET CBA — update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA — number of HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIBUS proxy functionality / header — product function / with PROFINET CBA / PROFIBUS proxy functionality / header — product function / with PROFINET CBA / PROFIBUS proxy functionality / with PROFIBUS proxy functionality	performance data / PROFINET CBA / HMI variables via PROFIN	NET / acyclic / header
acyclic transmission / with PROFINET CBA — number of HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIBUS proxy functionality / header — product function / with PROFINET CBA / PROFIBUS proxy functionality / PROFIBUS proxy functionality / PROFIBUS proxy functionality / e. number of coupled PROFIBUS devices / with PROFIBUS functionality / with PROFIBUS funct	variables / in the case of acyclic transmission / with	3; 2x PN OPC/1x iMap
transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIBUS proxy functionality / header — product function / with PROFINET CBA / PROFIBUS proxy functionality / header — product function with PROFINET CBA / PROFIBUS proxy functionality / with PROFIBUS proxy functionality / edata volume / with PROFIBUS proxy functionality / with PROFIBUS functi		500 ms
case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIBUS proxy functionality / header — product function / with PROFINET CBA / PROFIBUS proxy functionality / header — number of coupled PROFIBUS devices / with PROFIBUS incutionality / with PROFIBUS proxy functionality /	,	200
product function / with PROFINET CBA / PROFIBUS proxy functionality number of coupled PROFIBUS devices / with PROFIBUS functionality / with PROFIBUS functionality / with PROFINET CBA / per connection / maximum Number of connections overall usable for PG communication adjustable for PG communication, min adjustable for OP communication in adjustable for S7 basic communication in adjustable for S7 basic communication, min adjustable for S7 basic communication, min adjustable for S7 communication, max total number of instances, max total number of instances, max total number of instances, max	case of acyclic transmission / with PROFINET CBA /	2 000 byte
PROFIBUS proxy functionally — number of coupled PROFIBUS devices / with PROFIBUS functionality / with PROFIBUS proxy functionality / with PROFIBUS proxy functionality / with PROFIBUS CBA / per connection / maximum Number of connections • overall • usable for PG communication — reserved for PG communication, min. — adjustable for PG communication, max. • usable for OP communication — reserved for OP communication, min. — adjustable for PG communication in 1 — adjustable for OP communication, max. • usable for S7 basic communication, max. • usable for S7 basic communication in 1 — adjustable for OP communication in 1 — adjustable for S7 basic communication in 1 — adjustable for S7 basic communication in 1 — adjustable for S7 basic communication in 1 — adjustable for S7 communication	performance data / PROFINET CBA / PROFIBUS proxy function	nality / header
PROFIBUS functionality — data volume / with PROFIBUS proxy functionality / with PROFINET CBA/ per connection / maximum Number of connections • overall • usable for PG communication — reserved for PG communication — adjustable for PG communication, min. — adjustable for PG communication, max. • usable for OP communication, max. • usable for OP communication — reserved for OP communication, min. — adjustable for ST basic communication, min. — adjustable for ST communication, min. — adjustable for ST communication — reserved for ST communication — reserved for ST communication, min. — adjustable for ST communication — reserved for ST communication — adjustable for ST communication — reserved for ST communication — reserved for ST communication 30 • usable for ST communication 4 total number of instances, max. 31 • usable for routing **Y as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active 14; X2 as PROFINET: 24 max. **ST message functions for message functions, max. 31 **St profit MT message functions	— product function / with PROFINET CBA /	·
Number of connections • overall • usable for PG communication — reserved for PG communication — adjustable for PG communication, min. — adjustable for PG communication — reserved for OP communication, min. — adjustable for OP communication — reserved for OP communication — reserved for OP communication — adjustable for OP communication, min. — adjustable for SP basic communication — adjustable for SP basic communication — reserved for S7 basic communication — adjustable for S7 basic communication, min. — adjustable for S7 basic communication — adjustable for S7 communication, min. — adjustable for S7 communication — adjustable for S7 communication — reserved for S7 communication, min. — adjustable for S7 communication — adjustable for S7 communication — adjustable for S7 communication, min. — adjustable for S7 communication — adjustable for S7 communication, min. — adjustable for S7 communication — adjustable for S7 communication, min. — adjustable for S7 communication — adjustable for S7 communication, min. — adjustable for S7 communication — reserved for S7 basic communication — adjustable for S7 communication — reserved for S7 basic communication — adjustable for S7 communication — adju		16
overall usable for PG communication — reserved for PG communication — adjustable for PG communication, min. — adjustable for PG communication, max. usable for OP communication — reserved for OP communication — adjustable for PG communication — adjustable for OP communication — adjustable for OP communication, min. — adjustable for OP communication, max. usable for S7 basic communication — adjustable for S7 basic communication — reserved for S7 basic communication — adjustable for S7 basic communication, min. — adjustable for S7 basic communication, min. — adjustable for S7 communication — adjustable for S7 communication, min. — adjustable for S7 communication, min. — adjustable for S7 communication, max. 16 — reserved for S7 communication, max. 16 — total number of instances, max. 32 • usable for routing S7 message functions Number of login stations for message functions, 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 simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Yes; Up to 2 simultaneously Yes		240 byte; Slave-dependent
usable for PG communication reserved for PG communication, min. adjustable for PG communication, min. usable for OP communication, max. usable for OP communication - reserved for OP communication - reserved for OP communication - adjustable for OP communication, min. - adjustable for OP communication, min. - adjustable for OP communication, max. usable for S7 basic communication - reserved for S7 basic communication - adjustable for S7 basic communication - adjustable for S7 basic communication, min. - adjustable for S7 basic communication, min. - adjustable for S7 basic communication, min. - adjustable for S7 communication - reserved for S7 communication - reserved for S7 communication - adjustable for S7 communication - adjustable for S7 communication, min. - busable for S7 communication, min. - adjustable for S7 communication, max. 16 16 17 18 18 19 19 19 20 21 22 23 24 24 25 25 26 26 27 29 29 20 20 20 20 20 20 20 20	umber of connections	
- reserved for PG communication - adjustable for PG communication, min adjustable for PG communication, max. • usable for OP communication - adjustable for OP communication - reserved for OP communication, min adjustable for OP communication, min adjustable for OP communication, min adjustable for OP communication, max. • usable for S7 basic communication - reserved for S7 basic communication - adjustable for S7 basic communication, min adjustable for S7 basic communication, min adjustable for S7 basic communication, max. • usable for S7 communication - reserved for S7 communication - adjustable for S7 communication - adjustable for S7 communication - adjustable for S7 communication, min adjustable for S7 communication, max. • total number of instances, max. • usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes	• overall	32
- adjustable for PG communication, min adjustable for PG communication, max. • usable for OP communication - reserved for OP communication - adjustable for OP communication, min adjustable for OP communication, max. • usable for S7 basic communication, max. • usable for S7 basic communication - reserved for S7 basic communication - adjustable for S7 basic communication - adjustable for S7 basic communication, min adjustable for S7 basic communication, max. • usable for S7 communication - adjustable for S7 communication, min adjustable for S7 communication, max. • total number of instances, max. • total number of instances, max. • usable for routing S7 message functions Number of login stations for message functions, max. 22; Depending on the configured connections for PG/OP and S7 basic communication - reserved for S7 communication, max. 32; Depending on the configured connections for PG/OP and S7 basic communication - reserved for S7 communication - reserved for S7 communication, max. 32; Depending on the configured connections for PG/OP and S7 basic communication - reserved for S7 communication - reserved for S7 communication - reserved for S7 communication, max. 32; Depending on the configured connections for PG/OP and S7 basic communication - reserved for S7 communication - reserved for S7 communication - reserved for S7 basic communication - reserved for S7 communication - reserved for S7 communication - reserved for S7 communication	usable for PG communication	31
 adjustable for PG communication, max. usable for OP communication reserved for OP communication adjustable for OP communication, min. adjustable for OP communication, max. usable for S7 basic communication reserved for S7 basic communication adjustable for S7 basic communication adjustable for S7 basic communication, min. adjustable for S7 basic communication, max. usable for S7 communication reserved for S7 communication adjustable for S7 communication adjustable for S7 communication adjustable for S7 communication, min. adjustable for S7 communication, min. adjustable for S7 communication, min. b total number of instances, max. usable for routing X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active 14; X2 as PROFINET: 24 max. S7 message functions Number of login stations for message functions, max. Process diagnostic messages yes simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Yes; Up to 2 simultaneously Status block Yes 	— reserved for PG communication	1
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Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes	rocess diagnostic messages	Yes
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Single step Yes	t commissioning functions	
	tatus block	Yes; Up to 2 simultaneously
	ngle step	Yes
Number of breakpoints 4	umber of breakpoints	4
Status/control	tatus/control	

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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
 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	
Configuration software ● STEP 7	Yes; V5.5 or higher
	Yes; V5.5 or higher
• STEP 7	Yes; V5.5 or higher see instruction list
STEP 7 configuration / programming / header	
STEP 7 configuration / programming / header Command set	see instruction list
 STEP 7 configuration / programming / header Command set Nesting levels 	see instruction list
 STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) 	see instruction list 8 see instruction list
 STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) 	see instruction list 8 see instruction list
 STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language 	see instruction list 8 see instruction list see instruction list
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language — LAD	see instruction list 8 see instruction list see instruction list
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD	see instruction list 8 see instruction list see instruction list Yes Yes Yes
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language — LAD — FBD — STL	see instruction list 8 see instruction list see instruction list Yes Yes
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL	see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes
 STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH 	see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph®	see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection	see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection	see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection Block encryption	see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection Block encryption Dimensions	see instruction list 8 see instruction list yes Y
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection Block encryption Dimensions Width	see instruction list 8 see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption Dimensions Width Height	see instruction list 8 see instruction list yes Y
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption Dimensions Width Height Depth	see instruction list 8 see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
STEP 7 configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption Dimensions Width Height	see instruction list 8 see instruction list yes Y

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