SIEMENS

Data sheet

6ES7315-7TJ10-0AB0



SIMATIC S7-300, CPU 315T-3 PN/DP, Central processing unit for PLC and technology tasks, 384 KB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface DP (drive), 3rd interface Ethernet PROFINET with 2-port switch, Integr. I/O for technology, Front connector (1x 40-pole) and Micro Memory Card min. 8 MB required

General information	
HW functional status	01
Firmware version	CPU: V3.2; integrated technology V4.1.5
Product function	
Isochronous mode	Yes; Via PROFIBUS DP or PROFINET interface
Engineering with	
 Programming package 	STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Load voltage L+	
 Rated value (DC) 	24 V
 Reverse polarity protection 	Yes
Digital outputs	
— Rated value (DC)	24 V; (2L+)
 Reverse polarity protection 	No; (2L+)
Input current	
Current consumption (rated value)	1 050 mA
Current consumption (in no-load operation), typ.	230 mA
Inrush current, typ.	6.5 A
l²t	1 A ² ·s
Power loss	
Power loss, typ.	7.5 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 у
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	
• Number, max.	see instruction list
• 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 process alarm OBs	1; OB 40
Number of DPV1 alarm 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 technology synchronous alarm OBs 	1; OB 65
 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	256
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	255
— 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	256
Number Detentivity	256
Retentivity	Von
— adjustable	Yes
— lower limit	0
— upper limit	255 No retentivity
— preset	No retentivity
Time range	10 ms
— lower limit	10 ms

— upper limit	9 990 s
IEC timer	
present	Yes
•	SFB
• Type	
• Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	128 kbyte
Flag	
• 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	
 per priority class, max. 	32 768 byte; Max. 2048 bytes per block
Address area	
I/O address area	
Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	
— 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
Default addresses of the integrated channels	
— Digital inputs	66
— Digital outputs	66
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	256
Outputs	16 384
— of which central	256
Analog channels	
Inputs	1 024
— of which central	64
Outputs	1 024
— of which central	64
Hardware configuration	
Number of expansion units, max.	0
Number of DP masters	
 integrated 	2; 1 DP and 1 DP (drive)
• via CP	2; for DP
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	8
Rack	
 Racks, max. 	1
 Modules per rack, max. 	8
Time of day	

Clock	
	Voc
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
 Deviation per day, max. 	10 s; Тур.: 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
period	off
Operating hours counter	4
Number	1
Number/Number range	0
Range of values	0 to 2^31 hours (when using SFC 101)
• Granularity	1h
retentive	Yes; Must be restarted at each restart
Clock synchronization	
 supported 	Yes
 to MPI, master 	Yes
 to MPI, slave 	Yes
• to DP, master	Yes
● to DP, slave	Yes; Only time-of-day slave
• in AS, master	Yes
• in AS, slave	Yes
 on Ethernet via NTP 	Yes; As client
Digital inputs	
Number of digital inputs	4
 of which inputs usable for technological functions 	4
Input characteristic curve in accordance with IEC 61131,	Yes
type 1	
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	4
— up to 60 °C, max.	4
vertical installation	
— up to 40 °C, max.	4
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+15 to +30 V
Input current	
● for signal "1", typ.	7 mA
Input delay (for rated value of input voltage)	
for technological functions	
— at "0" to "1", max.	10 μs; Typical
— at "1" to "0", max.	10 µs; Typical
Cable length	
• shielded, max.	1 000 m
Digital outputs	0
Number of digital outputs	8
of which high-speed outputs	8
Functions	for technology functions, e.g. high-speed cam switch signals
Short-circuit protection	Yes
Response threshold, typ.	1A
Limitation of inductive shutdown voltage to	48 V
Controlling a digital input	No
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
lower limit	48 Ω
upper limit	4 kΩ
Output voltage	

● for signal "0", max.	3 V; (2L+)
-	
for signal "1", min. Output current	Rated voltage -2.5 V
for signal "1" rated value	0.5 A
 for signal "1" permissible range for 0 to 60 °C, min. 	5 mA
	0.6 A
• for signal "1" permissible range for 0 to 60 °C, max.	
for signal "0" residual current, max.	0.3 mA
Parallel switching of two outputs	Ma
 for uprating for redundant control of a load 	No
Switching frequency	No
	100 Hz
with resistive load, max.	
with inductive load, max.	0.2 Hz; According to IEC 60947-5-1, DC-13 100 Hz
on lamp load, max. Tatal surrent of the surface (non group)	100 HZ
Total current of the outputs (per group)	
horizontal installation	4.4
— up to 40 °C, max.	4 A 2 A
— up to 60 °C, max.	3 A
all other mounting positions	4.4
— up to 40 °C, max.	4 A
Integrated high-speed cams	70
Switching accuracy (+/-)	70 µs
Cable length	
 shielded, max. 	1 000 m
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Encoder	
Connectable encoders	
• 2-wire sensor	No
Interfaces	
Number of industrial Ethernet interfaces	1
Number of PROFINET interfaces	1
Number of RS 485 interfaces	2
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
	165
Interface types • RS 485	Vec
	Yes 200 mA
Output current of the interface, max.	200 IIIA
Protocols	N.e.
• 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 CD and loadable FD
	No; but via CP and loadable FB
- S7 communication, as server	Yes

 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 — 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
— 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.	2 kbyte
— Outputs, max.	2 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	52 byte
— PG/OP communication	Yes
— Routing	
 — Global data communication 	Yes; Only with active interface
	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)	Na
— DPV1	No
Transfer memory	244 bits
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
 Output current of the interface, max. 	200 mA
Protocols	
• MPI	No
PROFIBUS DP master	Yes; DP(DRIVE)-Master
PROFIBUS DP slave	No
 Point-to-point connection 	No
PROFIBUS DP master	
• Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	64
Services	
— PG/OP communication	No
- Routing	No
i touding	

— Global data communication	No
— S7 basic communication	No
— S7 communication	No
— Equidistance	Yes
 — Isochronous mode 	Yes
- SYNC/FREEZE	No
 Activation/deactivation of DP slaves 	Yes
— DPV1	No
Address area	
— Inputs, max.	1 024 byte
— Outputs, max.	1 024 byte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
• GSD file	http://support.automation.siemens.com in Product Support area
Transmission rate, max.	12 Mbit/s
3. Interface	
	DROEINET
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
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	100
Transmission rate, max.	100 Mbit/s
Services	Ver
— 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
— 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
 — Of which if the, max. — Number of connectable IO Devices for RT, 	128
max.	120
— of which in line, max.	128
— Activation/deactivation of IO Devices	Yes
— Number of IO Devices that can be	8
simultaneously activated/deactivated, max.	
— 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
— 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, 	2
max.	
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
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,
	CEE22 CEE22 CEE24 CEE2E
	65532, 65533, 65534, 65535
• Keep-alive function, supported	Yes
Keep-alive function, supported Protocols	
Protocols	Yes
Protocols PROFIsafe	Yes
Protocols PROFIsafe Redundancy mode	Yes
Protocols PROFIsafe Redundancy mode Media redundancy	Yes
Protocols PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ.	Yes No 200 ms; PROFINET MRP
Protocols PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max.	Yes No 200 ms; PROFINET MRP 50
Protocols PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP	Yes No 200 ms; PROFINET MRP
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 No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8
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. — Data length for connection type 01H, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte
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. — Data length for connection type 01H, max. — Data length for connection type 11H, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte
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. — Data length for connection type 01H, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte
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. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte 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. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006)	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes Yes; via integrated PROFINET interface and loadable FBs
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. — Data length for connection type 01H, max. — Data length for connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes Yes; via integrated PROFINET interface and loadable FBs 8
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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. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. • UDP — Number of connections, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 8
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. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. • UDP — Number of connections, max. — Data length, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes Yes; via integrated PROFINET interface and loadable FBs 8 32 768 byte Yes; via integrated PROFINET interface and loadable FBs
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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. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. • UDP — Number of connections, max. — Data length, max. • UDP — Number of connections, max. — Data length, max. • UDP — Number of connections, max. — Data length, max.	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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
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. - Data length for connection type 01H, max. - Data length for connection type 11H, max. - several passive connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. Web server • supported • User-defined websites	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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
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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. - Data length for connection type 01H, max. - Data length for connection type 11H, max. - several passive connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. Web server • supported • User-defined websites	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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
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. - Data length for connection type 01H, max. - Data length for connection type 11H, max. - several passive connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • User-defined websites • Number of HTTP clients	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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
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. - Data length for connection type 01H, max. - Data length for connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of HTTP clients communication functions / header	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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 Yes 5
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. - Data length for connection type 01H, max. - Data length for connection type 11H, max. - several passive connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. Web server • supported • User-defined websites • Number of HTTP clients communication functions / header PG/OP communication	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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 Yes Yes 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. - Data length for connection type 01H, max. - Data length for connection type 11H, max. - Data length for connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of connections, max. - Data length, max. • UDP - Number of HTTP clients communication functions / header PG/OP communication Data record routing	Yes No 200 ms; PROFINET MRP 50 Yes; via integrated PROFINET interface and loadable FBs 8 1 460 byte 32 768 byte Yes 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 Yes Yes 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
07	X_GET as server)
S7 communication	V.
 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
• Oser data per job, max.	the SFCs/FCs of S7 Communication)
S5 compatible communication	,
supported	Yes; via CP and loadable FC
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
usable for S7 communication — reserved for S7 communication	0
	0
— adjustable for S7 communication, min.	
— 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. 14; X2 as PROFINET: 24 max.
S7 message functions	
	16; Depending on the configured connections for PG/OP and S7 basic
Number of login stations for message functions, max.	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; without continuation
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
 Forcing, variables 	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	

• Number of entries, max. 500		2/
	• present	Yes
• Number of entires readable in RUN, max. 499 - adjustable 10 Service data 10 • can be read out Yes Interrupt-fidiagnostics/status information No Diagnostics findication IED No • Status indicator digital input (green) Yes • Status indicator digital input (green) Yes • Status indicator digital input (green) Yes • Detential separation digital inputs Yes • Detential separation digital outputs Yes • Detential separation digital outputs Yes • Detential separation digital outputs Yes • between the channels and backplane bus Yes * configuration offwalor	-	
—preset 10 Service data · - can be read out Yes Interrupts/diagnostics/status information No Diagnostics function No Diagnostics function No Status indicator digital input (green) Yes • Status indicator digital output (green) Yes Potential separation Yes Potential separation digital outputs · • between the channels and backplane bus Yes Potential separation digital outputs · • between the channels and backplane bus Yes Isolation Solation tested with Solation tested with 500 V DC Ambient conditions · Ambient conditions · Configuration / header Configuration istead Configuration / programming / header · Configuration software · · Command set 8 · Nesting levels 8 · Nesting levels 8 · System functiono (SFC) see instruction list · System function		
Service data Yes • can be read out Yes Interrupt site/apostice/status information No Diagnostice function No Diagnostics indicator digital input (green) Yes • Status indicator digital output green) Yes Potential separation digital inputs Yes • between the channels and backplane bus Yes Potential separation digital outputs Yes • between the channels and backplane bus Yes Isolation tested with 500 V DC Ambient conditions 600 °C Ambient conditions 0 °C • min. 0 °C • officeration software Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Te	— adjustable	Yes; From 10 to 499
• can be read out Yes Interruptic/diagnostic/risturs information No Diagnostics function No Diagnostics function No Diagnostics function No Status indicator digital input (green) Yes • Status indicator digital output (green) Yes Potential separation digital output (green) Yes • between the channels and backplane bus Yes • solation 500 V DC Ambient temperature during operation • • min. 0 °C • min. 0 °C • oommand set see instruction list • Setting levels 8 • System function lokes (SFB) see instruction list • System function lokes (SFB) see instruction list <	— preset	10
Interrupts/diagnostics/status information Alarms No Diagnostics function No Diagnostics function No Status indication LED * • Status indicator digital input (green) Yes Potential separation digital inputs * • between the channels and backplane bus Yes Potential separation digital outputs * • between the channels and backplane bus Yes Isolation * • between the channels and backplane bus Yes Isolation tested with 500 V DC Ambient conditions * Ambient conditions * • min. 0 °C • max. 60 °C configuration / header * Configuration / header * Configuration / programming / header * • Command set % ese instruction list • Nesting levels 8 • System function blocks (SFE) # • System function blocks (SFE) * • System function blocks (SFE) *	Service data	
Alarms No Diagnostics indication LED No • Status indicator digital input (green) Yes • Status indicator digital inputs Yes Potential separation Yes Potential separation digital inputs Yes • between the channels and backplane bus Yes Potential separation digital outputs Yes • between the channels and backplane bus Yes Isolation tosted with 500 V DC Ambient temperature during operation • • min. 0 °C • offiguration software • • Configuration software • Command set • Steps See instruction list • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming inguage Yes - LAD Yes - SCL Yes - GRAPH Yes - GRAPH Yes - GRAPH Yes - Block encryption Yes - GRAPH Yes - GRAPH Yes - GRAPH Yes - Block encryption Yes - Block encryption Yes - Midfi 120 mm - Bloc	can be read out	Yes
Diagnostics function No Diagnostics indicator digital input (green) Yes • Status indicator digital output (green) Yes Potential separation Potential separation digital inputs • between the channels and backplane bus Yes Potential separation digital outputs • between the channels and backplane bus Yes Potential separation digital outputs • between the channels and backplane bus Yes Isolation 0 VDC Ambient conditions Ambient conditions 0 °C Configuration / heador Configuration / heador 0 °C Configuration / heador Configuration / programming / header • Command set see instruction list • System function blocks (SFB) see instruction list 8 • System function blocks (SFB) see instruction list See Programming language — LAD Yes — SCL Yes See — SQL Yes See — SQL Yes See — CPC Yes See — GRAPH Yes Ses <td>Interrupts/diagnostics/status information</td> <td></td>	Interrupts/diagnostics/status information	
Diagnostics indication LED Yes Status indicator digital input (green) Status indicator digital inputs Yes Potential separation Potential separation digital inputs • between the channels and backplane bus Yes Potential separation digital outputs Yes • between the channels and backplane bus Yes Potential separation digital outputs • between the channels and backplane bus Yes Potential separation digital outputs • between the channels See Isolation Solation Isolation tested with 500 V DC Ambient temperature during operation o 'C e min. 0 'C e min. 0 'C configuration / programming / header Command set See instruction list System functions (SFC) System functions (SFC)	Alarms	No
• Status indicator digital input (green) Yes • Status indicator digital inputs Yes Potential separation digital inputs Yes • between the channels and backplane bus Yes Potential separation digital inputs Yes • between the channels and backplane bus Yes Isolation Status indicator digital inputs Isolation tested with 500 V DC Ambient conditions 0 °C Anbient conditions 60 °C Configuration / header Configuration isoftware • STEP 7 Yes: STEP 7 V5.5 SP2 or higher and S7-Technology option package v4.2 SP3 Configuration / programming / header • Command set Se instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function block (SFB) see instruction list • Programming language Yes - LAD Yes - SCL Yes - SCL Yes - CFC Yes - GRAPH Yes - Block encryption Yes Kno	Diagnostics function	No
• Status indicator digital output (green) Yes Potential separation digital inputs • • between the channels and backplane bus Yes Potential separation digital outputs • • between the channels and backplane bus Yes Isolation Soluton tested with Solution tested with Sol V DC Ambient conditions Ambient conditions - min. 0 °C • min. 0 °C • max. 60 °C Configuration software • • Steps function blocks (SFE) See instruction list • System functions (SFC) see instruction list • System function blocks (SFE) Yes - SCL Yes - SCL Yes - SCL Yes - GRAPH Yes - Block encryption Yes • Block encryption Yes • Width	Diagnostics indication LED	
Potential separation digital inputs • between the channels and backplane bus Yes Potential separation digital outputs • • between the channels and backplane bus Yes Isolation Isolation tested with Solot tested with 500 V DC Ambient conditions 0 °C Ambient temperature during operation • inin. • min. 0 °C configuration / header Configuration / header Configuration / header • StEP 7 • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package • Ortgramming / header • Command set • Command set see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language Yes - LAD Yes - STL Yes - SCL Yes - GRAPH Yes - Hidraph@ Yes Vidth 120 mm Block encryption Yes Width 120 mm	 Status indicator digital input (green) 	Yes
Potential separation digital inputs Yes • between the channels and backplane bus Yes Potential separation digital outputs • between the channels and backplane bus Yes Isolation tested with 500 V DC Ambient conditions 60 °C Ambient conditions 0 °C configuration / header 60 °C Configuration / header 60 °C configuration / header 60 °C • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header • Command set • Ocmmand set see instruction list • Nesting levels 8 • System function SICKS (SFB) see instruction list Programming language - LAD - LAD Yes - SCL Yes - SRAPH Yes - GRAPH Yes - Hidraph® Yes Vidth 120 mm + Height 120 mm • User program protection/password protection Yes • Know-how protection Yes • User program protection/password protection	 Status indicator digital output (green) 	Yes
• between the channels and backplane bus Yes Potential separation digital outputs • • between the channels and backplane bus Yes Isolation • Isolation tested with 500 V DC Ambient conditions • Ambient memperature during operation • • min. 0 °C • max. 60 °C configuration / header • Configuration software • • STEP 7 Ves: STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 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 - SCL Yes - SCL Yes - GRAPH Yes - Hidraph® Yes Midth 120 mm - Bick encryption Yes; With S7 block Privacy Dimensions Yes Width <td>Potential separation</td> <td></td>	Potential separation	
• between the channels and backplane bus Yes Potential separation digital outputs • • between the channels and backplane bus Yes Isolation 1 Isolation tested with 500 V DC Ambient temperature during operation • • min. 0 °C • max. 60 °C configuration / header • Configuration software • • STEP 7 Ves; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header • • Command set see instruction list • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language - - LAD Yes - FBD Yes - SCL Yes - GRAPH Yes - HiGraph® Yes Midth 120 mm • User program protection/password protection Yes • Ligraph® Yes Midth 120 mm • Hight 120 mm Depth	Potential separation digital inputs	
Potential separation digital outputs • between the channels and backplane bus Isolation Isolation Isolation Isolation tested with Ambient conditions Ambient conditions Ambient conditions Ambient conditions Or C • max. 60 °C configuration / header Configuration / header • Command set • System functions (SFC) • System function blocks (SFB) see instruction list • System function blocks (SFB) r= RBD - FBD - SCL - SCL - CFC - GRAPH - HiGraph® * User program protection/password protection * Block encryption * Ves - GRAPH - Block encryption *		Yes
• between the channels and backplane bus Yes Isolation Isolation tested with Ambient conditions Ambient conditions Ambient conditions 0 °C configuration / header 60 °C Configuration / header Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header ves; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header see instruction list • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language - - LAD Yes - SCL Yes - SCL Yes - GRAPH Yes - HiGraph0 Yes Know-how protection Yes; With S7 block Privacy Dimensions Yes; With S7 block Privacy Width 120 mm Height 120 mm Height<		
Isolation Isolation tested with 500 V DC Ambient conditions Ambient memorature during operation • min. 0 °C • max. 60 °C configuration / header Configuration software • STEP 7 V4.2 SP3 configuration software • Command set • Command set • Nesting levels • System function blocks (SFB) see instruction list • System function blocks (SFB) r = LAD - LAD - STL - STL - SCL - SCL - GRAPH - HiGraph® Yes Know-how protection/password protection • Block encryption Yes Width 120 mm Height Depth 130 mm Weights		Yes
Ambient conditions Ambient temperature during operation • min. 0 °C • max. 60 °C configuration / header Configuration software • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 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 Yes — LAD Yes — SCL Yes — SCL Yes — GRAPH Yes — HiGraph® Yes — HiGraph® Yes Vidth 120 mm • Block encryption Yes; With S7 block Privacy Vidth 125 mm Depth 130 mm	Isolation	
Ambient conditions Ambient temperature during operation • min. 0 °C • max. 60 °C configuration / header Configuration software • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 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 Yes — LAD Yes — SCL Yes — SCL Yes — GRAPH Yes — HiGraph® Yes — HiGraph® Yes Vidth 120 mm • Block encryption Yes; With S7 block Privacy Vidth 125 mm Depth 130 mm	Isolation tested with	500 V DC
Ambient temperature during operation 0 °C • max. 60 °C configuration / header 60 °C Configuration software 9 °C • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header 9 °C • Command set see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language - LAD - LAD Yes - FBD Yes - STL Yes - SCL Yes - GRAPH Yes - GRAPH Yes - HiGraph® Yes; With S7 block Privacy Dimensions 120 mm Width 125 mm Depth 130 mm Weight, aprox. 640 g		
• min.0 °C• max.60 °C• STEP 7Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3configuration / programming / header• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- HiGraph®YesWath120 mmHeight125 mmDepth130 mmWeight, approx.640 g		
max. 60 °C Configuration / header Configuration software • STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 Configuration / programming / header Command set • Command set · Command set · System functions (SFC) see instruction list · System function blocks (SFB) see instruction list Programming language - LAD - FBD - STL - SCL Yes - SCL Yes - SCL Yes - GRAPH Yes - HiGraph® Know-how protection · User program protection/password protection · User program protection/password protection · User program protection/password protection · Block encryption Ves Width 120 mm Height Depth Yes 640 g		0 °C
configuration / header Configuration software Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 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 - SCL Yes - SCL Yes - GRAPH Yes - HiGraph® Yes - HiGraph® Yes Width 120 mm Block encryption Yes; With S7 block Privacy Dimensions 130 mm Weight sprox. 640 g		
Configuration software Yes; STEP 7 Ves; STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header see instruction list • 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 - SCL Yes - SCL Yes - GRAPH Yes - HiGraph® Yes Width 120 mm • Block encryption Yes; With S7 block Privacy Dimensions 120 mm Weight 130 mm Weight, approx. 640 g		
• STEP 7 Yes; STEP 7 V5.5 SP2 or higher and S7-Technology option package V4.2 SP3 configuration / programming / header see instruction list • 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 - SFD Yes - SCL Yes - SCL Yes - CFC Yes - GRAPH Yes - HiGraph® Yes Vidth 120 mm Height 125 mm Depth 130 mm Weight, approx. 640 g		
V4.2 SP3 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/password protection Yes • User program protection/password protection Yes • Block encryption Yes; With S7 block Privacy Dimensions 120 mm Height 125 mm Depth 130 mm Weights 640 g		
• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®YesVidth120 mm+ leight120 mmHeight130 mmWeight, approx.640 g	Configuration software	Yes: STEP 7 V5 5 SP2 or higher and S7-Technology option package
• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®YesVes program protection/password protectionYes• Block encryptionYes; With S7 block PrivacyVidth120 mmHeight125 mmDepth130 mmWeight, approx.640 g	Configuration software	
• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- Higraph®YesWidth120 mmHeight125 mmDepth130 mmWeight, approx.640 g	Configuration software • STEP 7	
• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yesblock encryptionYesVist S7 block PrivacyDimensionsWidth120 mmHeight130 mmWeights640 g	Configuration software • STEP 7 configuration / programming / header	V4.2 SP3
Programming language - - LAD Yes - FBD Yes - STL Yes - SCL Yes - CFC Yes - GRAPH Yes - HiGraph® Yes Know-how protection Yes • User program protection/password protection Yes; With S7 block Privacy Dimensions 120 mm Width 125 mm Depth 130 mm Weights 640 g	Configuration software • STEP 7 configuration / programming / header • Command set	V4.2 SP3 see instruction list
- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes• User program protectionYes• Weight120 mm• Weight, approx.640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels	V4.2 SP3 see instruction list 8
- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes• User program protectionYes• Weight120 mm• Weight, approx.640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC)	V4.2 SP3 see instruction list 8 see instruction list
- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes; With S7 block Privacy• Block encryptionYes; With S7 block PrivacyDimensions120 mmWidth125 mmDepth130 mmWeight, approx.640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB)	V4.2 SP3 see instruction list 8 see instruction list
- SCLYes- CFCYes- GRAPHYes- HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes• Block encryptionYes; With S7 block PrivacyDimensions120 mmWidth125 mmDepth130 mmWeight, approx.640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language	V4.2 SP3 see instruction list 8 see instruction list see instruction list
- SCLYes- CFCYes- GRAPHYes- HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes• Block encryptionYes; With S7 block PrivacyDimensions120 mmWidth125 mmDepth130 mmWeight, approx.640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes
- CFCYes- GRAPHYes- HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes; With S7 block Privacy• Block encryptionYes; With S7 block PrivacyDimensions120 mmWidth125 mmDepth130 mmWeights440 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD — FBD	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes
GRAPHYes HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes; With S7 block Privacy• Block encryptionYes; With S7 block PrivacyDimensions120 mmWidth120 mmHeight125 mmDepth130 mmWeights440 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD — FBD — STL	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes
— HiGraph®YesKnow-how protectionYes• User program protection/password protectionYes; With S7 block Privacy• Block encryptionYes; With S7 block PrivacyDimensions120 mmWidth120 mmHeight125 mmDepth130 mmWeights40 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD — FBD — STL — SCL	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes
Know-how protection Yes • User program protection/password protection Yes • Block encryption Yes; With S7 block Privacy Dimensions 120 mm Width 125 mm Depth 130 mm Weights 640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language LAD FBD STL SCL CFC	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes
• User program protection/password protectionYes• Block encryptionYes; With S7 block PrivacyDimensionsWidth120 mmHeight125 mmDepth130 mmWeightsWeight, approx.640 g	Configuration software • STEP 7 configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD — FBD — STL — SCL — CFC — GRAPH	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
• Block encryption Yes; With S7 block Privacy Dimensions 120 mm Width 120 mm Height 125 mm Depth 130 mm Weights 640 g	Configuration software • 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®	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Dimensions Width 120 mm Height 125 mm Depth 130 mm Weights 640 g	Configuration software • 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	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes
Width120 mmHeight125 mmDepth130 mmWeightsWeight, approx.640 g	Configuration software 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	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Height 125 mm Depth 130 mm Weights 640 g	Configuration software 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	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Depth 130 mm Weights 640 g	Configuration software 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 	V4.2 SP3 see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Weights Weight, approx. 640 g	Configuration software 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	V4.2 SP3 see instruction list 8 see instruction list 9 Yes
Weight, approx. 640 g	Configuration software • 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	V4.2 SP3 see instruction list 8 see instruction list Yes Ye
	Configuration software • 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 Height Depth	V4.2 SP3 see instruction list 8 see instruction list Yes Ye
_	Configuration software 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 Height Depth Weights	V4.2 SP3 see instruction list 8 see instruction list Yes 120 mm 125 mm 130 mm
last modified: 8/24/2021	Configuration software • 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 Weights	V4.2 SP3 see instruction list 8 see instruction list Yes 120 mm 125 mm 130 mm