SIEMENS

Data sheet

6ES7416-5HS06-0AB0



SIMATIC S7-400H, CPU 416-5H, central processing unit for S7-400H and S7-400F/FH, 5 interfaces: 1x MPI/DP, 1x DP, 1x PN and 2 for sync modules, 16 MB memory (10 MB data/6 MB program)

General information	
Product type designation	CPU 416-5H PN/DP
HW functional status	1
Firmware version	V6.0
Product function	
Isochronous mode	No
Engineering with	
 Programming package 	As of STEP 7 V5.5 SP2 with HF1
CiR - Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	0 µs
Supply voltage	
Rated value (DC)	Power supply via system power supply
Input current	
from backplane bus 5 V DC, typ.	1.6 A
from backplane bus 5 V DC, max.	1.9 A
from backplane bus 24 V DC, max.	150 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	7.5 W
Memory	
Type of memory	RAM
Work memory	
 integrated 	16 Mbyte
 integrated (for program) 	6 Mbyte
 integrated (for data) 	10 Mbyte
• expandable	No
Load memory	
expandable FEPROM	Yes; with Memory Card (FLASH)
 expandable FEPROM, max. 	64 Mbyte
 integrated RAM, max. 	1 Mbyte
expandable RAM	Yes
• expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
with battery	Yes; all data
without battery	No
Battery	
Backup battery	
 Backup current, typ. 	180 μA; Valid up to 40°C

- Poolkup ourront mov	1 0000
Backup current, max.Backup time, max.	1 000 μA Dealt with in the module data manual with the secondary conditions and the
• Backup time, max.	factors of influence
 Feeding of external backup voltage to CPU 	5 V DC to 15 V DC
CPU processing times	
for bit operations, typ.	12.5 ns
for word operations, typ.	12.5 ns
for fixed point arithmetic, typ.	12.5 ns
for floating point arithmetic, typ.	25 ns
CPU-blocks	
DB	
• Number, max.	16 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
OB OB	
Number, max.	see instruction list
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	8; OB 10-17
Number of delay alarm OBs	4; OB 20-23
Number of cyclic interrupt OBs	9; OB 30-38
Number of process alarm OBs	8; OB 40-47
Number of DPV1 alarm OBs	3; OB 55-57
Number of startup OBs	2; OB 100, 102
Number of asynchronous error OBs	9; OB 80-88
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	_,
per priority class	24
 additional within an error OB 	2
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
	Yes
IEC counter	Yes SFB
IEC counter • present	
IEC counter • present • Type	SFB
IEC counter • present • Type • Number	SFB
IEC counter • present • Type • Number S7 times	SFB Unlimited (limited only by RAM capacity)
IEC counter • present • Type • Number S7 times • Number	SFB Unlimited (limited only by RAM capacity)
IEC counter • present • Type • Number S7 times • Number Retentivity	SFB Unlimited (limited only by RAM capacity) 2 048
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable	SFB Unlimited (limited only by RAM capacity) 2 048 Yes
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit	SFB Unlimited (limited only by RAM capacity) 2 048 Yes 0
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit	SFB Unlimited (limited only by RAM capacity) 2 048 Ves 0 2 047
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset	SFB Unlimited (limited only by RAM capacity) 2 048 Ves 0 2 047
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range	SFB Unlimited (limited only by RAM capacity) 2 048 Yes 0 2 047 No times retentive
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range — lower limit	SFB Unlimited (limited only by RAM capacity) 2048 Yes 0 2047 No times retentive 10 ms
IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range — lower limit — upper limit — upper limit	SFB Unlimited (limited only by RAM capacity) 2048 Yes 0 2047 No times retentive 10 ms

• Туре	SFB
• Type • Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)
Flag	
• Size, max.	16 384 byte
Retentivity available	Yes
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; in 1 memory byte
Local data	
• adjustable, max.	64 kbyte
• preset	32 kbyte
Address area	
I/O address area	
Inputs	16 kbyte
Outputs	16 kbyte
Process image	
 Inputs, adjustable 	16 kbyte
 Outputs, adjustable 	16 kbyte
Inputs, default	1 024 byte
Outputs, default	1 024 byte
consistent data, max.	244 byte
Access to consistent data in process image	Yes
Subprocess images	
Number of subprocess images, max.	15
Digital channels	
Inputs	131 072
— of which central	131 072
Outputs	131 072
— of which central	131 072
Analog channels Inputs 	8 192
- of which central	8 192
Outputs	8 192
— of which central	8 192
Hardware configuration	
Number of expansion units, max.	21
connectable OPs	95
Multicomputing	No
Interface modules	
Number of connectable IMs (total), max.	6
Number of connectable IM 460s, max.	6
• Number of connectable IM 463s, max.	4; Single mode only
Number of DP masters	
• integrated	2
• via CP	10; CP 443-5 Extended
Mixed mode IM + CP permitted	No
via interface module	0
Number of IO Controllers	
 integrated 	1
● via CP	0
Number of operable FMs and CPs (recommended)	
● FM	See manual Automation System S7-400H fault-tolerant systems. Limited by number of slots and number of connections
• CP, PtP	See manual Automation System S7-400H fault-tolerant systems. Limited by number of slots and number of connections
 PROFIBUS and Ethernet CPs 	14; Of which max. 10 CP as DP master
Slots	
Slots required slots 	2
	2

 Hardware clock (real-time) 	Vac
	Yes
retentive and synchronizable	Yes
Resolution	1 ms
• Deviation per day (buffered), max.	1.7 s; Power off
Deviation per day (unbuffered), max.	8.6 s; Power on
Operating hours counter	
• Number	16
Number/Number range	0 to 15
Range of values	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
Granularity	1 h
retentive	Yes
Clock synchronization	
supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• to DP, master	Yes
• to DP, slave	Yes
• in AS, master	Yes
• in AS, slave	Yes
on Ethernet via NTP	Yes; As client
Time difference in system when synchronizing via	
• Ethernet, max.	10 ms; Via NTP
● MPI, max.	200 ms
Interfaces	
Number of RS 485 interfaces	2
Number of other interfaces	2; Fiber-optic interface
Optical interface	No
1. Interface	
Interface type	MPI/PROFIBUS DP
Isolated	Yes
Interface types	
• RS 485	Yes
 Output current of the interface, max. 	150 mA
Protocols	
• MPI	Yes
MPI PROFIBUS DP master	Yes
PROFIBUS DP master	Yes
PROFIBUS DP masterPROFIBUS DP slave	Yes No 44; If a diagnostics repeater is used on the line, the number of connection
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max.	Yes No 44; If a diagnostics repeater is used on the line, the number of connection
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication — Routing	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication — Routing — Global data communication	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication, as client	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication, as client — S7 communication, as server 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes
PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication, as client	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication, as client — S7 communication, as server 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No No Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No No Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes 22; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s 32
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services PG/OP communication 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services PG/OP communication Routing 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services PG/OP communication Routing Global data communication 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No No Yes Yes Yes Yes Yes Yes Yes Yes Yes
 PROFIBUS DP master PROFIBUS DP slave MPI Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services PG/OP communication Routing Global data communication S7 communication Routing Global data communication S7 basic communication 	Yes No 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 12 Mbit/s Yes Yes No No Yes Yes Yes Yes Yes Yes Yes Yes

 — S7 communication, as server 	Yes
— Equidistance	No
 — Isochronous mode 	No
— SYNC/FREEZE	No
 Activation/deactivation of DP slaves 	No
 — Direct data exchange (slave-to-slave 	No
communication)	
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP slave	
— User data per DP slave, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	
Number of connections	No configuration of CPU as DP slave
2. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes; Autosensing
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	No
Number of connection resources	96
Interface types	
RJ 45 (Ethernet)	Yes
Number of ports	2
 integrated switch 	Yes
Protocols	
 PROFINET IO Controller 	Yes
PROFINET IO Device	No
PROFINET CBA	No
PROFIBUS DP master	No
PROFIBUS DP slave	No
Open IE communication	Yes
Web server	No
 Point-to-point connection 	No
Media redundancy	Yes
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
Services — PG/OP communication	Yes
Services — PG/OP communication — S7 communication	Yes Yes
Services — PG/OP communication — S7 communication — Isochronous mode	Yes Yes No
Services — PG/OP communication — S7 communication — Isochronous mode — Shared device	Yes Yes No Yes; Single mode only
Services — PG/OP communication — S7 communication — Isochronous mode — Shared device — Prioritized startup	Yes Yes No Yes; Single mode only No
Services — PG/OP communication — S7 communication — Isochronous mode — Shared device — Prioritized startup — Number of connectable IO Devices, max.	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces
Services — PG/OP communication — S7 communication — Isochronous mode — Shared device — Prioritized startup — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT, max.	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256
Services 	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256
Services 	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No
Services 	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256
Services 	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No
Services 	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No No
Services 	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No No Yes 250 µs, 500 µs, 1 ms, 2 ms, 4 ms 250 µs to 512 ms, minimum value depends on the number of configured user
Services - PG/OP communication - S7 communication - Isochronous mode - Shared device - Prioritized startup - Number of connectable IO Devices, max. - Number of connectable IO Devices for RT, max. - Number of connectable IO Devices for RT, max. - Number of connectable IO Devices for RT, max. - of which in line, max. - Activation/deactivation of IO Devices - IO Devices changing during operation (partner ports), supported - Device replacement without swap medium - Send cycles - Updating time	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No No Yes 250 µs, 500 µs, 1 ms, 2 ms, 4 ms
Services - PG/OP communication - S7 communication - Isochronous mode - Shared device - Prioritized startup - Number of connectable IO Devices, max. - Number of connectable IO Devices for RT, max. - Number of connectable IO Devices for RT, max. - of which in line, max. - Activation/deactivation of IO Devices - IO Devices changing during operation (partner ports), supported - Device replacement without swap medium - Send cycles - Updating time Address area	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No No Yes 250 µs, 500 µs, 1 ms, 2 ms, 4 ms 250 µs, 500 µs, 1 ms, 2 ms, 4 ms
Services - PG/OP communication - S7 communication - Isochronous mode - Shared device - Prioritized startup - Number of connectable IO Devices, max. - Number of connectable IO Devices for RT, max. - Number of connectable IO Devices for RT, max. - Number of connectable IO Devices for RT, max. - of which in line, max. - Activation/deactivation of IO Devices - IO Devices changing during operation (partner ports), supported - Device replacement without swap medium - Send cycles - Updating time	Yes Yes No Yes; Single mode only No 256; In redundant mode via both interfaces 256 256 No No Yes 250 µs, 500 µs, 1 ms, 2 ms, 4 ms 250 µs to 512 ms, minimum value depends on the number of configured user

Open III: Bootmanuaciation Percent Section • Number of connections, max. 94 • Local prof. Links 94 • Keep-alive function, supported Yes > Interface type PROFIBUS DP • Interface type PROFIBUS DP • Response 32 • Response 150 mA • Response 122 • Response 123 • Response 124 • POLOP communication Yes • - Routing Yes • - Routing Yes • - SP consist communication No • - SP consist communication Yes • - SP consist communication Yes • - SP consist communication No	— User data consistency, max.	1 024 byte
• Number of connections, max. 94 • Local port numbers used at the system and 65355 92, 12, 55, 102, 125, 101, 34092, 34093, 34094, 65532, 65533, 65534, 65535 • Number of connection, resources 32 • Interface interface 92 • Ref Ref Mys Profinues DP • Number of connection resources 32 • R 4.405 Yes • R 4.405 Yes • R ROFERS DP alwas No PROFERS DP master Yes • R ROFERS DP alwas No PROFERS DP master Yes • R ROFERS DP alwas No PROFERS DP master Yes • R ROFERS DP alwas No • R ROFERS DP alwas No • R ROFERS DP alwas No • R ROFERS DP alwas 12 Abbits • R ROFERS DP alwas 12 Abbits • R ROFERS DP alwas No • R ROFERS DP alwas 12 Abbits • R ROFERS DP alwas No • S To ommunication Yes • S To ommunication, as server Yes • S To ommunication of DP alwas No • Direct date exchange (alwe to slawe No • Direct date exchange (alwe to slawe No • Direct date exchange (alwe to slawe No • Direc	· · · · · · · · · · · · · · · · · · ·	
		94
Junification PROFIBUS DP Interface type PROFIBUS DP • R8488 32 Interface type Yes • Chupt ourient of the interface, max. 150 mA PROFIBUS DP master Yes • PROFIBUS DP master Yes • PROFIBUS DP master Yes • Number of connections, max. 32 • Transmission rate, max. 12 Matrix • Number of connections, max. 12 Matrix • Roof RBUS DP master Yes • Number of connections, max. 12 Matrix • Number of connections, max. 12 Matrix • Services - - PGOP communication Yes - Seconnumication No - S7 communication, as enver Yes - S7 communication, as enver Yes - S7 communication, as enver Yes - Struct data schange (size=-fo-alize No - SYNOFTREEZE No - Advitavorideadvisation of DP sizves No - Divid Yes Addites area A khyte		0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534,
Interface type PROFIBUE DP Number of connection resources 92 • R5 495 Yes • Output current of the interface, max. 150 mA • PROFIBUS DP matter Yes • Number of connections, max. 12 • Number of De laves, max. 125 Services • PROFID Marks, max. - PCOP communication Yes - Roung Yes - S7 communication, as elimit Yes - Drivit Clabs exchange (silve-to-slave No - Outputs, max. 8 kbyte - Outputs, max. 8 kbyte - Outputs, max. 244 byte - Outputs, max. 244 byte <td> Keep-alive function, supported </td> <td>Yes</td>	 Keep-alive function, supported 	Yes
Number of connection resources 92 Initiation by loss • R3 45 • Vest • Output current of the interface, max. 150 mA PROCENS • PROFIBUS DP master Yest • PROFIBUS DP master Yest • No • PROFIBUS DP master Yest • No • Number of connections, max. 32 • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • ROUTING Yest • Clobal data communication No - Services • Facion munication No • Services - Souring Yest • Souring Yest - Souring Yest • Souring Yest - Souring Yest • Souring Yest - Souring Yest • Souring No - Souring Yest • Souring No - Souring No • Souring No - Devide No • Souring No - Devide No	3. Interface	
Interface types • R5 436 • Oupla current of the interface. max. 150 mA PROFIBUS DP matter • PROFIBUS SP matter • PROFIBUS SP matter • PROFIBUS SP matter • PROFIBUS SP matter • Transmission rate, max. 12 Mobils • Number of connections, max. 12 Mobils • Number of SP staves, max. 12 Mobils • PROP Communication • Routing • Optical data communication • No - ST balls Communication • ST communication • ST communication • ST communication • ST communication, as client • ST communication, as server • ST communication, as server • ST communication, as server • St contranscilent, as server • ST communication, as server • ST communication, as server • St contranscilent, as server • St communication, as server • Outputs, max. • Advises/able/able/able/able/able/able/able/able	Interface type	PROFIBUS DP
• RS 485 Yes • Output current of the Interface, max. 150 mA • PROFIBUS DP master Yes • PROFIBUS DP master No • PROFIDUS DP master No • Number of commetons, max. 12 • Transmission rate, max. 12 Mol/6 • Number of DP sites, max. 12 Mol/6 • Rode DP sites, max. 12 Mol/6 • Static communication No • Static communication, scient Yes • Static communication, scient Yes • Static communication on set over Yes - • Diver data sexchange (stave-to-st	Number of connection resources	32
• Output current of the interface, max. 150 mA PROFIBUS DP master Yes • PROFIBUS DP master No • Transmission rate, max. 32 • Transmission rate, max. 12 Motifs • Number of DP slaves, max. 125 Services - • PROP Bus De dida ac communication No • OPCOP communication Yes • OPCOP communication No • ST basic communication No • ST communication, as client Yes • ST communication, as client Yes • ST communication, as client Yes • ST communication, as dient Yes • Struct Asia exchange (size-to-sizee No • Struct Asia exchange (size-to-sizee No • Output, max. 8 ktyte • Output, max. 8 ktyte • Output, max. 8 ktyte • Output, max. 244 byte • Struct, moutput, max. 244 byt	Interface types	
Procession • PROFIBUS DP stave • PROFIBUS DP master Yes • PROFIBUS DP master • No • Number of connections, max. 32 • Transmission rate, max. 12 Mubbis • Number of DP shaves, max. 125 Services - - RCOP communication No - Static communication No - ST communication, as surver Yes - Global data communication No - ST communication, as surver Yes - ST communication, as surver Yes - Equiditatione No - ST communication, as surver Yes - Equiditatione No - ST communication, as surver Yes - Equiditatione No - ST communication, as surver Yes - Obstronous mode No - ST communication of PP slaves No - Advariant and the PD P slave No - Direct data setchange (alwet-to-slave No - Uputy, max. 8 kbyte - Uputy, max. 24 byte <t< td=""><td>• RS 485</td><td>Yes</td></t<>	• RS 485	Yes
• PROFIBUS DP naster Yes • PROFIBUS DP fave No • Number of connections, max. 32 • Transmission rate, max. 124 Multis • Number of DP sloves, max. 125 Services - - PGOPC communication Yes - Routing Yes - Globel data communication No - S7 basic communication No - S7 communication, as client Yes - S7 communication, as sever Yes - Equidistance No - S7 communication, as sever Yes - Equidistance No - S7 communication of DP slaves No - Direct data schange (lave-to-slave No - Uptuft, max. 244 byte - Uptuft, max. 244 byte - Liputts, max. 128 byte User data per DP slave, max. 128 byte Interface type Pluggab	 Output current of the interface, max. 	150 mA
PROFIBUS DP slave No PROFIBUS DP master 32 • Number of connections, max. 32 Number Num	Protocols	
PROFIBUS DP master • Number of connections, max. 32 • Transmission rate, max. 12 Mbi/s • Number of DP sites, max. 125 Services - - PG/OP communication Yes - Global data communication No - ST basic communication No - ST communication, as client Yes - ST communication, as server Yes - ST communication, as server Yes - ST communication, as server Yes - Equidistance No - activation/description No - structionation as client Yes - Struction/description No - activation/description of DP siteves No - activation/description of DP siteves No - Direct data acchange (save-to-stave communication) No - Direct data scription (save-to-stave communication) No - Direct data per DP slave No -	PROFIBUS DP master	Yes
Number of connections, max. 32 Transmission rate, max. 12 Molifs Number of DP slaves, max. 125 Services — PGOP Communication Yes — Routing Yes — Global data communication No — S7 communication No — S7 communication No — S7 communication, as enver Yes — Equidistance Services No — S7 communication, as enver Yes — S7 communication, as enver Yes — S7 communication, as enver Yes — Equidistance No — S7 communication, as enver Yes — Equidistance No — S7 communication, as enver Yes — Equidistance No — S7 communication, as enver Yes — Equidistance No — S7 communication BP slaves No — S7 communication OID P slaves No — Direct data exchange (slave-to-slave — Direct data exchange (slave-to-slave) — Direct data exchange (slave-to-slave — Direct data exchange (slave-to-slave) — Direct data exchandex — Direct data exchange	PROFIBUS DP slave	No
12 Moti/s Number of DP sitves, max. 125 <td< td=""><td>PROFIBUS DP master</td><td></td></td<>	PROFIBUS DP master	
• Number of DP slaves, max. 125 Services - - PG/OP communication Yes - Routing Yes - Global data communication No - S7 basic communication No - S7 communication, as server Yes - S7 communication of DP slaves No - S7 continuoid contion of DP slaves No - S7 continuoid contion of DP slaves No - S7 continuoid contion of DP slaves No - Devid data excharge (slave-to-slave communication) No - DPV0 Yes - DPV1 Yes - Uputs, max. 8 kbyte - Uputs, max. 244 byte - Inputs, max. 244 byte - Stos, max. 244 byte - per slot, max. 244 byte - Nuther of slatons in	 Number of connections, max. 	32
Services - - PC/OP communication Yes - Global data communication No - SF7 basic communication No - SF7 basic communication Yes - SF7 communication Yes - SF7 communication, as alient Yes - SF7 communication, as server Yes - SF7 communication, as server Yes - Equidistance No - SF7 communication of De slaves No - SF7 communication of De slaves No - Activation/ideactivation of DP slaves No - Activation/ideactivation of DP slaves No - DPV0 Yes - DPV0 Yes - DPV1 Yes - Drupts, max. 8 kbyte - Inputs, max. 244 byte - Inputs, max. 244 byte - Outputs, max. 244 byte - Synchronization modules (ECO) Plugable synchronization modules (ECO) Plugable synchronization modules (ECO) Plugable synchronization modules (ECO) Plugable synchronization modules (ECO) Plugab	Transmission rate, max.	12 Mbit/s
	Number of DP slaves, max.	125
- RoutingYes- Global data communicationNo- S7 communicationNo- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- EquidistanceNo- EquidistanceNo- ST COMERCIPACEZENo- ST COMERCIPACEZENo- Direct data exchange (slave-to-slaveNo- Direct data exchange (slave-to-slaveNo- Direct data exchange (slave-to-slaveNo- DPV0Yes- DPV1Yes- DPV1Yes- User data per DP slave, max.8 kbyte- User data per DP slave, max.244 byte- User data per DP slave, max.244 byte- Slobi, max.244 byte- per slot, max.244 byte- Slobi, max.244 byte- per slot, max.244 byte- Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7860-1AB06-0XA0Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7860-1AB06-0XA0<	Services	
- Global data communication No - S7 basic communication No - S7 basic communication Yes - S7 communication, as client Yes - S7 communication, as server Yes - Equidistance No - Bochronuz mode No - Isochronuz mode No - Isochronuz mode No - Achvalano/deactivation of DP slaves No - Achvalano/deactivation of DP slaves No - Direct data exchange (slave-to-slave No communication) Yes - DPV0 Yes - DPV1 Yes - DPV1 Yes - User data per DP slave, max. 8 kbyte - User data per DP slave, max. 244 byte - User data per DP slave, max. 244 byte - User data per DP slave, max. 244 byte - Slots, max. 240 byte - Number of stations in the ring, max. 50	— PG/OP communication	Yes
	— Routing	Yes
	— Global data communication	No
	— S7 basic communication	No
	— S7 communication	Yes
− EquidistanceNo− Isochronous modeNo− SSYNC/FREEZENo∧ Activation/deadtvation of DP slavesNo− Direct data exchange (slave-to-slave communication)No− DPV0Yes− DPV1Yes− DPV1Yes− DV1S kbyte− Dutst, max.8 kbyte− Outputs, max.8 kbyte− Outputs, max.8 kbyte− Outputs, max.244 byte− Outputs, max.244 byte− User data per DP slave, max.244 byte− Stots, max.244 byte− Stots, max.244 byte− Stots, max.244 byte− per slot, max.128 byteInterface typePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0ProtocolsFRedundancy modeSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0ProtocolsFFSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0FSinterface modulesSinterface modulesSynchronization modules 6ES7960-1AA	- S7 communication, as client	Yes
	- S7 communication, as server	Yes
-SYNC/FREEZENo-Adtivation/deactivation of DP slavesNo-Direct data exchange (slave-to-slave communication)No-DPV0Yes-DPV1Yes-DPV1Yes-Outputs, max.8 kbyte-Outputs, max.8 kbyte-Outputs, max.8 kbyte-Outputs, max.244 byte-Outputs, max.244 byte-Outputs, max.244 byte-Outputs, max.244 byte-Outputs, max.244 byte-Stots, max.244 byte-Stots, max.244 byte-Stots, max.244 byte-Pugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0-SinderfaceSinderface-SinderfaceSinderface-SinderfaceSinderface-SinderfaceSinderface<	— Equidistance	No
Activation/deactivation of DP slavesNo Direct data exchange (slave-to-slave communication)No DPV0Yes DPV1Yes DPV1YesAddress area8 kbyte Outputs, max.8 kbyte Outputs, max.8 kbyte User data per DP slave, max.244 byte User data per DP slave, max.244 byte Outputs, max.244 byte Outputs, max.244 byte Outputs, max.244 byte Outputs, max.244 byte Slots, max.244 per slot, max.244 per slot, max.50 Interface typePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Interface typePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Solts, max.50 Sitterface200 ms Sitterface modules200 ms Sitterface modules200 ms Number of stations in the ring, max.50 SitterfaceYes Open IE communicationYes, yia integrated PROFINET interface and loadable FBS Number of connections, max.94	— Isochronous mode	No
→ Direct data exchange (slave-to-slave communication) No → DPV0 Yes → DPV1 Yes Address area - → Inputs, max. 8 kbyte User data per DP slave - → User data per DP slave, max. 244 byte → Outputs, max. 244 byte → Der slot, max. 244 byte → per slot, max. 244 byte → per slot, max. 128 byte Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5.Interface Fetococis Redundancy mode Ves Media redundancy 200 ms → Number of stations in the ring, max. 50 SIMATIC communication Yes Open IE communication Yes, via integrated PROFINET interface and loadable FBs → Number of stations, max. 54 <td>- SYNC/FREEZE</td> <td>No</td>	- SYNC/FREEZE	No
communication) - DPV0 - DPV1 Yes - DPV1, Yes Address area - - Inputs, max. 8 kbyte Outputs, max. 8 kbyte User data per DP slave - - User data per DP slave, max. 244 byte - Inputs, max. 244 byte - Outputs, max. 244 byte - Outputs, max. 244 byte - Slots, max. 244 byte - Slots, max. 244 byte - per slot, max. 245 byte Interface type Pluggable synchronization submodule (FO) Pug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5 Interface Fedundancy - Switchover time on line break, typ. 200 ms - Switchover time on line break, typ. 200 ms - Number of stations in the ring, max. 50 SIMATIC communication - - Svitchover time on line break, typ. 200 ms - Number of connections, m	 Activation/deactivation of DP slaves 	No
- DPV1 Yes Address area - - Inputs, max. 8 kbyte - Outputs, max. 8 kbyte - User data per DP slave - - User data per DP slave, max. 244 byte - Inputs, max. 244 byte - Outputs, max. 244 byte - Outputs, max. 244 byte - Stots, max. 244 byte - per slot, max. 128 byte A Interface Plugable synchronization submodule (FO) Plug-in Interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5 Interface Plugable synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Plug-in Interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols	communication)	
Address area - Inputs, max. 8 kbyte - Outputs, max. 8 kbyte User data per DP slave 244 byte - Inputs, max. 244 byte - Outputs, max. 244 byte - Slots, max. 244 byte - per slot, max. 28 byte Interface type Plugable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols - Redundancy mode Subtronization modules 6ES7960-1AB06-0XA0 or 6ES7960-1AB06-0XA0 - Switchover time on line break, typ.		
- Inputs, max. 8 kbyte - Outputs, max. 8 kbyte User data per DP slave - - User data per DP slave, max. 244 byte - Inputs, max. 244 byte - Outputs, max. 244 byte - Outputs, max. 244 byte - Slots, max. 244 - per slot, max. Synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols - - Redundancy - 200 ms - Switchover time on line break, typ. 200 ms - Number of statio		Yes
Outputs, max.8 kbyteUser data per DP slave244 byte User data per DP slave, max.244 byte Inputs, max.244 byte Outputs, max.244 byte Stots, max.244 per slot, max.244 byte per slot, max.245 byteInterface typePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA05. InterfacePluggable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA06. Interface typePluggable synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA07. ProtocolsPlug-in interface modulesMedia redundancy200 ms- Switchover time on line break, typ.200 ms- Number of stations in the ring, max.50SIMATIC communicationYes• S7 routingYesOpen IE communicationYes- Number of connections, max.94		
User data per DP slave 244 byte - User data per DP slave, max. 244 byte - Inputs, max. 244 byte - Outputs, max. 244 byte - Slots, max. 244 - per slot, max. 28 byte A. Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Fredundancy mode Media redundancy	• •	
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- Inputs, max. 244 byte - Outputs, max. 244 byte - Slots, max. 244 - per slot, max. 128 byte A. Interface Plugable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5. Interface Interface type Plugable synchronization submodule (FO) Plugable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5. Interface Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Protocols Redundancy mode Vestor Media redundancy 200 ms - Number of stations in the ring, max. 50 SIMATIC communication 50 • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBS - Number of connections, max. 94		
- Outputs, max.244 byte- Slots, max.244- per slot, max.128 byteA. InterfacePluggable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA05. InterfacePluggable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA05. InterfacePluggable synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0ProtocolsProtocolsRedundancy modeSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0Media redundancy200 ms- Switchover time on line break, typ.200 ms- Switchover time on line break, typ.200 ms- Synchronization50SIMATIC communicationYesOpen IE communicationYes; via integrated PROFINET interface and loadable FBs 94	•	
Slots, max.244 per slot, max.128 byte4. InterfacePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA05. InterfacePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA05. InterfacePlugable synchronization submodule (FO)Plug-in interface modulesSynchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0ProtocolsProtocolsRedundancy mode200 ms- Switchover time on line break, typ.200 ms- Number of stations in the ring, max.50SIMATIC communicationSo• ST routingYesOpen IE communicationYes; via integrated PROFINET interface and loadable FBs – Number of connections, max.• TCP/IPYes; via integrated PROFINET interface and loadable FBs 94	-	
per slot, max. 128 byte Interface Plugable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5. Interface Interface type Interface type Plugable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Redundancy mode Media redundancy 200 ms - Switchover time on line break, typ. 200 ms - Number of stations in the ring, max. 50 SIMATIC communication Yes • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94	-	
4. Interface Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5. Interface Interface type Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Redundancy mode Media redundancy		
Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5. Interface Pluggable synchronization submodule (FO) Plug-in interface modules Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization submodule (FO) Plug-in interface modules Synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Redundancy mode Media redundancy		128 Dyte
Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 5. Interface Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Protocols Redundancy mode Vestor Media redundancy 200 ms - Number of stations in the ring, max. 50 SIMATIC communication Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94		
5. Interface Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Redundancy mode Media redundancy		
Interface type Pluggable synchronization submodule (FO) Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Protocols Redundancy mode	-	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
Plug-in interface modules Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0 Protocols Redundancy mode Media redundancy		
Protocols Redundancy mode Media redundancy — Switchover time on line break, typ. 200 ms — Number of stations in the ring, max. 50 SIMATIC communication • S7 routing Yes Open IE communication • TCP/IP Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 94		
Redundancy mode Media redundancy - Switchover time on line break, typ. 200 ms - Number of stations in the ring, max. 50 SIMATIC communication 50 • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94	-	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
Media redundancy - Switchover time on line break, typ. 200 ms - Number of stations in the ring, max. 50 SIMATIC communication 50 • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94		
- Switchover time on line break, typ. 200 ms - Number of stations in the ring, max. 50 SIMATIC communication 50 • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94		
Number of stations in the ring, max. 50 SIMATIC communication Yes • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs Number of connections, max. 94	· · · · · · · · · · · · · · · · · · ·	
SIMATIC communication Yes • S7 routing Yes Open IE communication Yes; via integrated PROFINET interface and loadable FBs • TCP/IP Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94		
• S7 routing Yes Open IE communication • TCP/IP Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94		50
Open IE communication • TCP/IP Yes; via integrated PROFINET interface and loadable FBs - Number of connections, max. 94		
• TCP/IP Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 94		Yes
- Number of connections, max. 94		
	• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Data length, max. 32 kbyte		
	— Data length, max.	32 kbyte

 — several passive connections per port, supported 	Yes
ISO-on-TCP (RFC1006)	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs
 Number of connections, max. 	94
— Data length, max.	32 kbyte; 1 452 bytes via CP 443-1 Adv.
• UDP	Yes; via integrated PROFINET interface and loadable FBs
 — Number of connections, max. 	94
— Data length, max.	1 472 byte
Web server	
supported	No
Isochronous mode	
Equidistance	No
communication functions / header	
PG/OP communication	Yes
Number of connectable OPs without message processing	95
 Number of connectable OPs with message processing 	95; When using Alarm_S/SQ and Alarm_D/DQ
Data record routing	Yes
Global data communication	
supported	No
S7 basic communication	
supported	No
S7 communication	
• supported	Yes
• as server	Yes
as client	Yes
• User data per job, max.	64 kbyte
• User data per job (of which consistent), max.	462 byte; 1 variable
S5 compatible communication	
• supported	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)
• User data per job, max.	8 kbyte
User data per job (of which consistent), max.	240 byte
Number of simultaneous AG-SEND/AG-RECV orders per	64/64
CPU, max.	
Standard communication (FMS)	
supported	Yes; Via CP and loadable FB
Number of connections	
overall	96
 usable for PG communication 	
 reserved for PG communication 	1
— adjustable for PG communication, max.	0
usable for OP communication	
— reserved for OP communication	1
— adjustable for OP communication, max.	0
usable for S7 basic communication	
— reserved for S7 basic communication	0
	0
usable for S7 basic communication, max.	
- reserved for S7 communication	0
- adjustable for S7 communication, max.	0
usable for routing	
usable for routing — reserved for routing	0
— adjustable for routing, max.	0
S7 message functions	
	05: May 05 with Alarm S/SO and Alarm D/DO (ODa); may 40 with Alarm
Number of login stations for message functions, max.	95; Max. 95 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)
Symbol-related messages	No
SCAN procedure	No
Program alarms	Yes
Program alarms Process diagnostic messages	Yes
Process diagnostic messages	Yes

blocks, max.	
• preset, max.	1 200
Process control messages	Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	64
Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	16
Status/control	
Status/control variable	Yes; Up to 16 variable tables
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of variables, max.	70
Forcing	
Forcing	Yes
Forcing, variables	Inputs/outputs, bit memories, distributed I/Os
Number of variables, max.	512
Diagnostic buffer	512
	Voc
present Number of optrion, max	Yes
Number of entries, max.	3 200
— adjustable	Yes
— preset	120
Service data	
• can be read out	Yes
EMC	
Emission of radio interference acc. to EN 55 011	
 Limit class A, for use in industrial areas 	Yes
Limit class B, for use in residential areas	No
configuration / header	
Configuration software	
• STEP 7	Yes
configuration / programming / header	
Command set	see instruction list
Nesting levels	7
Nesting levelsAccess to consistent data in process image	7 Yes
Access to consistent data in process image	Yes
Access to consistent data in process imageSystem functions (SFC)	Yes see instruction list
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) 	Yes see instruction list
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language 	Yes see instruction list see instruction list
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD 	Yes see instruction list see instruction list Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD 	Yes see instruction list see instruction list Yes Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL 	Yes see instruction list see instruction list Yes Yes Yes Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC 	Yes see instruction list see instruction list Yes Yes Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes SFC / header 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 8 8 8 1
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously actives RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8 8 8 1 2
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8 8 8 8 1 2 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8 8 8 8 8 8 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 8 8 8 1 2 8 8 8 1
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL configuration / programming / number of simultaneously active 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes SEFC / header 8 8 8 8 1 1 2 5FE / header
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL configuration / programming / number of simultaneously active 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8 8 8 1 2 SFC / header 8 8 8 1 2 5FB / header 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL configuration / programming / number of simultaneously active 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes SEFC / header 8 8 8 8 1 1 2 5FE / header
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL configuration / programming / number of simultaneously active 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 8 8 8 1 2 2 8 8 8 1 2 5FB / header 8 8 8 1
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL configuration / programming / number of simultaneously active 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 8 8 8 8 8 1 2 2 8 8 8 8 1 2 2 8 8 8 8 8
 Access to consistent data in process image System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active RD_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL configuration / programming / number of simultaneously active 	Yes see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 1 2 2 8 8 8 8

Width	50 mm	
Height Depth	290 mm	
Depth	219 mm	
Weights		
Weight, approx.	995 g	

last modified:

4/1/2022 🖸