SIEMENS

Data sheet

6ES7416-3XS07-0AB0



SIMATIC S7-400, CPU 416-3, Central processing unit with: Work memory 16 MB, (8 MB code, 8 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP, 3rd interface plug-in IFM module

General information	
Product type designation	CPU 416-3
HW functional status	01
Firmware version	V7.0
Product function	
Isochronous mode	Yes; For PROFIBUS only
Engineering with	
 Programming package 	STEP 7 V5.4 or higher with HSP 261
CiR - Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	10 µs
Supply voltage	
Rated value (DC)	Power supply via system power supply
Input current	
from backplane bus 5 V DC, typ.	1.1 A
from backplane bus 5 V DC, max.	1.3 A
from backplane bus 24 V DC, max.	450 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	5.5 W
Memory	
Type of memory	RAM
Work memory	
 integrated 	16 Mbyte
 integrated (for program) 	8 Mbyte
 integrated (for data) 	8 Mbyte
integrated (for data)expandable	8 Mbyte No
• expandable	
expandable Load memory	No
expandable Load memory expandable FEPROM	No Yes; with Memory Card (FLASH)
expandable Load memory expandable FEPROM expandable FEPROM, max.	No Yes; with Memory Card (FLASH) 64 Mbyte
expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max.	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte
expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max. expandable RAM	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte Yes; with Memory Card (RAM)
expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max. expandable RAM expandable RAM, max.	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte Yes; with Memory Card (RAM)
expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max. expandable RAM expandable RAM, max. Backup	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte Yes; with Memory Card (RAM) 64 Mbyte
 expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max. expandable RAM expandable RAM, max. Backup present with battery without battery without battery 	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte Yes; with Memory Card (RAM) 64 Mbyte Yes
expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max. expandable RAM expandable RAM, max. Backup present with battery	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte Yes; with Memory Card (RAM) 64 Mbyte Yes Yes
 expandable Load memory expandable FEPROM expandable FEPROM, max. integrated RAM, max. expandable RAM expandable RAM, max. Backup present with battery without battery without battery 	No Yes; with Memory Card (FLASH) 64 Mbyte 1 Mbyte Yes; with Memory Card (RAM) 64 Mbyte Yes Yes

- Realium aurrent may	9504
Backup current, max.	850 μA Dealt with in the module data manual with the secondary conditions and the
Backup time, max.	Dealt with in the module data manual with the secondary conditions and the 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.	10 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
• Number, max.	5 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	5 000; 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 (shortest cycle that can be set = $500 \ \mu s$)
Number of process alarm OBs	8; OB 40-47
Number of DPV1 alarm OBs	3; OB 55-57
Number of isochronous mode OBs	4; OB 61-64
Number of multicomputing OBs	1; OB 60
Number of hackground OBs	1; OB 90
Number of startup OBs	3; OB 100-102
Number of asynchronous error OBs	9; OB 80-88
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	2,00121,122
per priority class	24
additional within an error OB	2
Counters, timers and their retentivity	2
S7 counter	
Number	2 048
Retentivity	2 070
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
— preset	No times retentive
Time range	
— lower limit	10 ms
	9 990 s
— upper limit IEC timer	
	Vec
• present	Yes SFB
• Туре	OFD

Number	Unlimited (limited only by RAM capacity)
ata areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)
Flag	
• Size, max.	16 kbyte; Size of bit memory address area
Retentivity available	Yes
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; in 1 memory byte
Local data	
adjustable, max.	32 kbyte
• preset	16 kbyte
ddress area	
I/O address area	
	16 kbyto
Inputs	16 kbyte
Outputs	16 kbyte
Process image	40.14.44
Inputs, adjustable	16 kbyte
Outputs, adjustable	16 kbyte
Inputs, default	512 byte
Outputs, default	512 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
lardware configuration	
Number of expansion units, max.	21
connectable OPs	95
Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Interface modules	
	6
Number of connectable IMs (total), max.	
Number of connectable IM 460s, max.	6 4: IM 462-2
Number of connectable IM 463s, max.	4; IM 463-2
Number of DP masters	
• integrated	2
• via CP	10; CP 443-5 Extended
• via IM 467	4
Mixed mode IM + CP permitted	No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode
• via interface module	1
Number of pluggable S5 modules (via adapter capsule in	6
central device), max.	
Number of IO Controllers	
integrated	0
• via CP	4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode
Number of operable FMs and CPs (recommended)	
• FM	Limited by number of slots and number of connections
• CP, PtP	CP 440: Limited by number of slots; CP 441: limited by number of connections
PROFIBUS and Ethernet CPs	14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller
Slots	

Time of day	
Clock	
Hardware clock (real-time)	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; For 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
• on MPI, device	Yes
• to DP, master	Yes
• on DP, device	Yes
• in AS, master	Yes
• in AS, device	Yes
 on Ethernet via NTP 	No; Via CP
• to IF 964 DP	Yes
Time difference in system when synchronizing via	
• MPI, max.	200 ms
Interfaces	
Interfaces/bus type	1 x MPI/PROFIBUS DP, 1 x PROFIBUS DP, 1 x PROFIBUS DP (optionally pluggable)
Number of RS 485 interfaces	2; Combined MPI / PROFIBUS DP and PROFIBUS DP
Number of other interfaces	1; PROFIBUS DP with IF 964-DP (plug-in option; MLFB: 6ES7964-2AA04- 0AB0)
1. Interface	
1. Interface Interface type	MPI/PROFIBUS DP
	MPI/PROFIBUS DP Yes
Interface type	
Interface type Isolated Interface types • RS 485	
Interface type Isolated Interface types	Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols	Yes Yes 150 mA
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI	Yes Yes 150 mA Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master	Yes Yes 150 mA Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device	Yes Yes 150 mA Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI	Yes Yes 150 mA Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections	Yes Yes 150 mA Yes Yes Yes Yes 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max.	Yes Yes 150 mA Yes Yes Yes 44; If a diagnostics repeater is used on the line, the number of connection
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services	Yes Yes 150 mA Yes Yes Yes Yes 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
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services — PG/OP communication	Yes Yes 150 mA Yes Yes Yes Yes 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
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services — PG/OP communication — Routing	Yes Yes 150 mA Yes Yes Yes Yes 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
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services — PG/OP communication — Routing — Global data communication	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication	Yes Yes 150 mA Yes Yes Yes Yes 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 Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication	Yes Yes 150 mA Yes Yes Yes Yes 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 Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device MPI • Number of connections • Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication, as client	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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 Yes 150 mA Yes Yes Yes Yes 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 Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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.	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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.	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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. • max. number of DP devices	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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. • Transmission rate, max. • max. number of DP devices Services	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device 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. • Transmission rate, max. • max. number of DP devices Services	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes

— S7 basic communication	Yes
— S7 communication	Yes
 — S7 communication, as client 	Yes
 — S7 communication, as server 	Yes
— Equidistance	Yes
 — Isochronous mode 	Yes
— SYNC/FREEZE	Yes
 activation/deactivation of DP devices 	Yes
 — Direct data exchange (slave-to-slave communication) 	Yes
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP device	
— user data per DP device, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
1st interface / PROFIBUS DP device / header	
Number of connections	32
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
 Transmission rate, max. 	12 Mbit/s
automatic baud rate search	No
Address area, max.	32; Virtual slots
 User data per address area, max. 	32 byte
- of which consistent, max.	32 byte
Services	02 byte
— PG/OP communication	Yes; with interface active
— Routing	Yes; with interface active
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Direct data exchange (slave-to-slave communication)	No
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	PROFIBUS DP
Isolated	Yes
Interface types	
• RS 485	Yes
 Output current of the interface, max. 	150 mA
Protocols	
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
PROFIBUS DP master	
Number of connections, max.	32
Transmission rate, max.	12 Mbit/s
 max. number of DP devices 	125
Services	
— PG/OP communication	Yes
— Routing	Yes; S7 routing
Global data communication	No
— S7 basic communication	Yes
— S7 communication	Yes
or communication	

07 communication and diant	
— S7 communication, as client	Yes
- S7 communication, as server	Yes
— Equidistance	Yes
— Isochronous mode	Yes
- SYNC/FREEZE	Yes
 activation/deactivation of DP devices 	Yes
 — Direct data exchange (slave-to-slave communication) 	Yes
— DPV1	Yes
Address area	103
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP device	0 KDyte
— user data per DP device, max.	244 byte
— Inputs, max. — Outputs, max.	244 byte
•	244 byte
— Slots, max.	244
— per slot, max.	128 byte
2nd interface / PROFIBUS DP device / header	20
Number of connections	32
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
• Transmission rate, max.	12 Mbit/s
Address area, max.	32 20 h. t
• User data per address area, max.	32 byte
— of which consistent, max.	32 byte
Services	
- Routing	Yes; with interface active
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
3. Interface	
Interface type	pluggable interface module (IF), technical data as for 2nd interface
Plug-in interface modules	IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
Isolated	Yes
automatic detection of transmission rate	No
Interface types	
Interface types • RS 485	Yes
Interface types • RS 485 • Output current of the interface, max.	
Interface types • RS 485 • Output current of the interface, max. Protocols	Yes 150 mA
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI	Yes 150 mA No
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master	Yes 150 mA No Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device	Yes 150 mA No
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master	Yes 150 mA No Yes Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max.	Yes 150 mA No Yes Yes 32
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max.	Yes 150 mA No Yes Yes Yes 12 Mbit/s
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices	Yes 150 mA No Yes Yes 32
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services	Yes 150 mA No Yes Yes 32 12 Mbit/s 125
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices	Yes 150 mA No Yes Yes Yes 12 Mbit/s
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services	Yes 150 mA No Yes Yes 32 12 Mbit/s 125
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication	Yes 150 mA No Yes Yes 32 12 Mbit/s 125 Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services - PG/OP communication - Routing	Yes 150 mA No Yes Yes 32 12 Mbit/s 125 Yes Yes; S7 routing
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services - PG/OP communication - Routing - Global data communication	Yes Yes No Yes Yes 32 12 Mbit/s 125 Yes; S7 routing No
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication — Routing — Global data communication — S7 basic communication	Yes 150 mA No Yes Yes 32 12 Mbit/s 125 Yes; S7 routing No Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication	Yes 150 mA No Yes Yes 32 12 Mbit/s 125 Yes Yes; S7 routing No Yes Yes Yes Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication, as client	Yes 150 mA No Yes Yes 32 12 Mbit/s 125 Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server	Yes 150 mA No Yes Yes 32 12 Mbit/s 125 Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication, as client — S7 communication, as server — Equidistance	Yes 150 mA No Yes Yes 22 12 Mbit/s 125 Yes; S7 routing No Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode	Yes 150 mA No Yes Yes Yes 32 12 Mbit/s 125 Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes Yes
Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • max. number of DP devices Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE	Yes 150 mA No Yes Yes Yes 32 12 Mbit/s 125 Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Interface types	Yes 150 mA No Yes Yes Yes 22 12 Mbit/s 125 Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes Yes

Address area B Dutpok, max. 8 Dutpok, max. 8 Jest of data per DD device, max. 244 byte	— DPV1	Yes
Ougoda, max. 94 ktyle user data per DP device, max. 244 ktyle Indus, max. 244 ktyle Outoda, max. 244 ktyle Outoda, max. 244 ktyle Device, max. 244 ktyle Device, max. 128 ktyle Device from concords 32 Statimetice / PROFIBUS DP device / header 124 ktyle Number of connectores 32 Statimetice / PROFIBUS DP device / header 124 ktyle Number of connectores 32 Statimetice / PROFIBUS DP device / header 124 ktyle Statimetice / Anthe diviniterize / as DP stave / maximum 32 Statimetice / Anthe diviniterize / max. 32 Or which constater, max. 32 Or which constater, max. 32 Or Or munication Yes, With interface active Or Or Monication Yes Or Or Monication Yes Or Or munication Yes Or Or munication Yes Or Or munication Yes Or Or Monication <td></td> <td></td>		
Ougoda, max. 94 ktyle user data per DP device, max. 244 ktyle Indus, max. 244 ktyle Outoda, max. 244 ktyle Outoda, max. 244 ktyle Device, max. 244 ktyle Device, max. 128 ktyle Device from concords 32 Statimetice / PROFIBUS DP device / header 124 ktyle Number of connectores 32 Statimetice / PROFIBUS DP device / header 124 ktyle Number of connectores 32 Statimetice / PROFIBUS DP device / header 124 ktyle Statimetice / Anthe diviniterize / as DP stave / maximum 32 Statimetice / Anthe diviniterize / max. 32 Or which constater, max. 32 Or which constater, max. 32 Or Or munication Yes, With interface active Or Or Monication Yes Or Or Monication Yes Or Or munication Yes Or Or munication Yes Or Or munication Yes Or Or Monication <td>— Inputs, max.</td> <td>8 kbyte</td>	— Inputs, max.	8 kbyte
User data pro IP Avoice 244 byte		
 - Inputs. max. - Values. max. - Part old, max. <	User data per DP device	
 - Outputs. max. Stots. Stot Res. Intradiet or Interface / RADPE store / Interface / as DP store / Intradiet matterin semena com/WW/develorit 13052 Intradiet / Interface / as DP store / Interface / as DP store / Intradiet matterin semena com/WW/develorit 13052 Intradiet / Interface / as DP store / Interface / Interface	— user data per DP device, max.	244 byte
- Jois, ma: 24 - Jois ana. 25 byte Sol interface / FRQFBUS DP device / mader - Number of connections - Sol De -	— Inputs, max.	244 byte
— per alt. max. 128 byte Statisticau / FROBUS DP device / header 32 • SDD file Thit discontration stements com/WW/yeaven/113.852 • Latistic ratio / at the 3d infertace / as DP slave / maximum 12 • adformatic build rate search No • adformatic build rate search No • Address area, max. 32 • User diab per address area, max. 32 • Of which consistent, max. 32 • Bill DP address area, max. 32 • Of which consistent, max. 32 • Service - - P GIOP communication Yes - Routing Yes - Routing Yes - Sto addres dommunication No - Sto communication Yes - Sto communication Yes - Direct data scontany (store -to-stave No - Direct data scontany (— Outputs, max.	244 byte
3sta interface / PROFILIUS DP device / header 32 • Number of connections 32 • GSD File 12 Mobits • Transfer rate / af the 3rd interface / as DP slave / maximum 12 Mobits • aldronalic baid rate script No • Address area, max. 32 Dyte • User data per address area, max. 32 Dyte • Good fast communication No - Rolofog Yes - Rolofog Yes - Stood data communication No - Stood data communication No - ST communication, as client Yes - Stood data communication No - ST communication, as client Yes - Drot data schamp (share-to-slave communication) No - Stoodrag Yes - Drot data schamp (share-to-slave communication) No - Stoodrag Yes StadtTic communication Yes - Drot data schamp (share-to-slave communication) Yes	— Slots, max.	244
e 32 e GSD file 12 e Startistic rate / at the 3rd interface / as DP slave / maximum 12 automatic bad rate search No e Address area, max. 32 b User data per address area, max. 32 b - of which consistent, max. No of which consistent, max. Yes - of which consistent, max. of which consistent, max. 244 byte - of which consistent, max. outputs - outputs 244 byte - outputs - outputs - outputs ST contrunication Ves outputs - outputs </td <td>— per slot, max.</td> <td>128 byte</td>	— per slot, max.	128 byte
• GSD file Db//Sispont automation sciences.com/WW/sciences 12852 • instider rate / at the 3rd interface / as DP slave / maximum 12 Mb//S • address area, max. 32 • User data per address area, max. 32 byte • of which consistent, max. 32 byte • GOP Communication Yes • Routing Yes, with interface active • Gobial data communication No • So routing Yes • Gobial data communication No • So roumunication, as client Yes • So roumunication, as server Yes • Drug data active data exchange (slave-to-slave communication) No • Drug data active data exchange (slave-to-slave communication) No • Drug data active data exchange (slave-to-slave communication) No • Drug data active data exchange (slave-to-slave communication) No • Drug data active data exchange (slave-to-slave communication) No • Drug data active data exchange (slave-to-slave communication) No • Drug data data data data data data data dat	3rd interface / PROFIBUS DP device / header	
+ transfer rate / at the 3dd interface / as DP slave / msammum 12 Mubits - address area, max. 32 - Jober data per address area, max. 32 - of which consistent, max. 32 byte - of which consistent, max. 32 byte - address area, max. 32 byte - of which consistent, max. 32 byte - address area, max. 32 byte - address area, max. 32 byte - of which consistent, max. 32 byte - address area, max. 32 byte - address	Number of connections	32
maximum No • automatic bauf rate search No • Address area, max. 32 • User data per address area, max. 32 byte Services	• GSD file	http://support.automation.siemens.com/WW/view/en/113652
• Address area, max. 32 • User data per address area, max. 32 byte		12 Mbit/s
• User data per address area, max. 32 byte		
of which consistent, max. 32 byte Services - PG/OP communication Yes Routing Yes, which iterface active Gibbli data communication No S7 basic communication No S7 communication, as cleant Yes DPV1 No Inputs 244 byte Outputs 244 byte Protocols Outputs ST Routing Yes Outputs 244 byte Protocols Outputs Stronting Yes Open El communication Outputs DrU (REC1006) Va CP 443-1 and loadable FB Data length, max. 1 452 bytes via CP 443-1 Adv. web server ST conting Yes Stopported Stopported No Stopported Stopported Stopported Stopported Stopported <	 Address area, max. 	32
Services - - PG/CP communication Yes, with interface active - Gobal data communication No - ST communication No - ST communication Yes - Dived data exchange (size-to-size No Stronting Yes Yes Stronting Yes Yes Open IE communication Yes Yes Number of DP masters with lochronous mode 3 Yes Izecortonus izecont	 User data per address area, max. 	
PG/OP communication Yes Routing Yes		32 byte
RoutingYes; with interface active Global data communicationNo S7 communicationNo S7 communication, as clientYes S7 communication, as dientYes S7 communication, as serverYes Diret data exchange (slave-to-slave communication)No DPV1NoTransfer memory Inputs244 byte Outputs244 byte Outputs244 byteProtocotsSiMATIC communicationYes S7 contingYes Data length, max.1452 bytes via CP 443-1 Adv.Web server Stortonous mode3 Dupted1452 bytes via CP 443-1 Adv.Web server Stortonous mode3 Duta length, max.1452 bytes via CP 443-1 Adv.Web server Stortonous mode3 Duta length max.244 byte Stortonous mode3 Data length, max.244 byte Stortonous mode3 Data length max.244 byte Stortonous mode3 Data length max.244 byte Stortonous mode3 Data length max.244 byte Stortonous store, max.244 byte Stortonous store, max.244 byte Stortonous for the stortonous mode3 Stortonous for the stortonous mode3 Stortonous for the stortonous mode3 Stortonou		
- Global data communicationNo- S7 basic communicationNo- S7 basic communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-los-slave communication)No- DPV1NoTransfer memory244 byte- Outputs244 byte- Outputs244 byte- Transfer memory- S7 routing- Outputs244 byte- Transfer memory- S7 routing- Transfer memory- S44 byte- Transfer memory- S7 routing- Transfer memory- S7 routing- S7 routingYesOpen IE communicationNo- Borborous mode- S7 routing- De ata length, max S42 bytes via CP 443-1 and loadabie FB- Lisco droub- S7 routing- Storborous slave, max S44 byteShorhorous mode- S- Sidolata communicationYes- Number of Connectable OPs with message processing95Data record routingYes- Sidolat data communicationYes- Number of GD pac		
Direct data exchange (slave-to-slave communication) No DPV1 No Transfer memory 244 byte Outputs 244 byte Protocols 244 byte SIMATIC communication Ves • S7 routing Ves Open IE communication 1452 bytes via CP 443-1 and loadable FB • SO-on-TCP (RFC1006) Via CP 443-1 and loadable FB - Data length, max. 1452 bytes via CP 443-1 Adv. Web server • supported • supported No Isochronous mode 3 Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest dock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication 95; When using Alarm_5/SQ and Alarm_D/DQ • Number of connectable OPs with message processing 95; When using Alarm_5/SQ and Alarm_D/DQ • Suported Yes • Silobal data communication Yes • Silobal data communication Yes • Silobal data communication Yes • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, receiver,		
communication No DPV1 No Transfer memory 244 byte Outputs 244 byte Protocols SiMATIC communication • S7 rouling Yes Open IE communication Yes • ISO-on-TCP (RFC1006) Via CP 443-1 and loadable FB Data length, max. 1 452 bytes via CP 443-1 Adv. Web server - • supported No Isochronous mode Yes Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 3 zms communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of GD packets, transmitter, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, max. 54 byte • Size of GD packets, max. 54 byte • Size of GD packets, max. 54 byte • Size of GD packets, max. 54 byte		
Transfer memory - Inputs 244 byte - Outputs 244 byte Protocols 244 byte SIMATIC communication 244 byte • S7 routing Yes Open IE communication Via CP 443-1 and loadable FB • ISO-on-TCP (RFC1006) Via CP 443-1 and loadable FB - Data length, max. 1 452 bytes via CP 443-1 Adv. Web server • • supported No Sochronous mode 3 Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication /Yes PG(OP communication Yes • Number of connectable OPs without message processing 95; When using Alarm_S/SQ and Alarm_D/DQ Data record routing Yes Global data communication Yes • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte •		NO
Inputs 244 byte Outputs 244 byte Protocols SIMATIC communication • S7 routing Yes Open IE communication Via CP 443-1 and loadable FB • ISO-on-TCP (RFC1006) Via CP 443-1 add loadable FB Data length, max. 1 452 bytes via CP 443-1 Adv. Web server • • supported No Isochronous mode 3 Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication Yes PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ Data record routing Yes • Supported Yes • Number of GD pookets, transmitter, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, max. 54 byte • Size of GD packets, max. 54 byte • Size of GD packets (of which consistent), max. 10 • Size of GD packets (of which consistent), max. 54 byte • Size of GD packets (of which consisten	— DPV1	No
Outputs 244 byte Protocols SIMATIC communication SIMATIC communication Yes Open IE communication Via CP 443-1 and loadable FB Data length, max. 1 452 bytes via CP 443-1 Adv. Web server - - supported No Isochronous mode 244 byte Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication Yes PG/OP communication Yes Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ Number of connectable OPs with message processing 95 Data record routing Yes Global data communication Yes supported Yes Number of GD pops, max. 16 Number of GD packets, transmitter, max. 16 Number of GD packets, transmitter, max. 16 Number of GD packets, transmitter, max. 16 Number of	Transfer memory	
Protocols SIMATIC communication • S7 routing Yes Open IE communication • ISO-on-TCP (RFC1006) Via CP 443-1 and loadable FB — Data length, max. 1 452 bytes via CP 443-1 Adv. Web server • • supported No Isochronous mode 5 Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication Yes PG/OP communication Yes 95 When using Alarm_S/SQ and Alarm_D/DQ 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs with message processing 95 Data record routing Yes Global data communication Yes • Number of GD packets, transmitter, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, transmitter, max. 24 • Size of GD packets, fransmitter, max. 54 byte • Size of GD packets (of which consistent), max. <	— Inputs	244 byte
SIMATIC communication Yes Open IE communication Yes Open IE communication Via CP 443-1 and loadable FB - Data length, max. 1 452 bytes via CP 443-1 Adv. Web server supported - supported No Isochronous mode Yes Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication Yes PG/OP communication Yes Obde data communication Yes Idea tecord routing Yes Global data communication Yes Isophrted Yes Number of GD packets, transmitter, max. 16 Number of GD packets, max. 16 Number of GD packets, max. 32 Size of GD packets, max. 54 byte Size of GD packet (of which consistent), max. 1 variable S7 basic communication 1 variable	— Outputs	244 byte
• S7 routing Yes Open IE communication Via CP 443-1 and loadable FB • ISO-on-TCP (RFC1006) Via CP 443-1 and loadable FB — Data length, max. 1 452 bytes via CP 443-1 Adv. Web server • • supported No Isochronous mode 1 Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication Yes PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95; Data record routing Yes Global data communication Yes • supported Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, maxmitter, max. 16 • Number of GD packets, maxmitter, max. 16 • Number of GD packets, maxmitter, max. 54	Protocols	
Open IE communication Via CP 443-1 and loadable FB - Data length, max. 1 452 bytes via CP 443-1 Adv. Web server - Data length, max. • supported No Isochronous mode 3 Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max, cycle 32 ms communication Yes PG/OP communication Yes Obtate of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Otat record routing Yes Global data communication Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable	SIMATIC communication	
• ISO-on-TCP (RFC1006) Via CP 443-1 and loadable FB Data length, max. 1 452 bytes via CP 443-1 Adv. Web server • supported • supported No Isochronous mode - Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication functions / header Yes PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ Obtal record routing Yes Global data communication Yes • supported Yes • Supported Yes • Supported Yes • Number of GD loops, max. 16 • Number of GD packets, ransmitter, max. 16 • Number of GD packets, max. 54 byte • Size of GD packets, max. 54 byte • Size of GD packet, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable <td>· · · · · · · · · · · · · · · · · · ·</td> <td>Yes</td>	· · · · · · · · · · · · · · · · · · ·	Yes
Web server • supported No Isochronous mode Isochronous mode Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication functions / header PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Data record routing Yes Isouported Yes • Supported Yes • Number of CD loops, max. 16 • Number of CD packets, transmitter, max. 16 • Number of GD packets, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet, (of which consistent), max. 1 variable S7 basic communication 1		
• supported No Isochronous mode Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication functions / header Yes PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing Yes Global data communication Yes • Supported Yes Global data communication Yes • Supported Yes • Number of GD pops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication Fermitient		1 452 bytes via CP 443-1 Adv.
Isochronus mode Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication functions / header Yes PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Data record routing Yes Global data communication Yes • supported Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication 1		
Equidistance Yes Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication functions / header PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Data record routing Yes Global data communication Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication 1		NU
Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 max. cycle 32 ms communication functions / header PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Data record routing Yes Global data communication Yes • supported Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication 1 variable		Vee
User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 ms7esPG/OP communicationYes• Number of connectable OPs with message processing95; When using Alarm_S/SQ and Alarm_D/DQ• Number of connectable OPs without message processing95Data record routingYesGlobal data communicationYes• supportedYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communication1 variable	•	
shortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 mscommunication functions / headerPG/OP communicationYes• Number of connectable OPs with message processing95; When using Alarm_S/SQ and Alarm_D/DQ• Number of connectable OPs without message processing95Data record routingYesGlobal data communicationYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communication1 variable		
max. cycle 32 ms communication functions / header PG/OP communication PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Data record routing Yes Global data communication Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication S7 basic communication		
communication functions / header PG/OP communication Yes • Number of connectable OPs with message processing 95; When using Alarm_S/SQ and Alarm_D/DQ • Number of connectable OPs without message processing 95 Data record routing Yes Global data communication Yes • supported Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication S7 basic communication	•	
PG/OP communicationYes• Number of connectable OPs with message processing95; When using Alarm_S/SQ and Alarm_D/DQ• Number of connectable OPs without message processing95Data record routingYesGlobal data communicationYes• supportedYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communicationS7 basic communication	· ·	02 III3
• Number of connectable OPs with message processing95; When using Alarm_S/SQ and Alarm_D/DQ• Number of connectable OPs without message processing95Data record routingYesGlobal data communicationYes• supportedYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communicationYes		Yes
• Number of connectable OPs without message processing95Data record routingYesGlobal data communicationYes• supportedYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communicationYes		
Data record routingYesGlobal data communication• supportedYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communicationS7 basic communication	 Number of connectable OPs with message processing 	95. When using Alarm S/SQ and Alarm D/DQ
Global data communication Yes • supported Yes • Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication S7 basic communication		
• supportedYes• Number of GD loops, max.16• Number of GD packets, transmitter, max.16• Number of GD packets, receiver, max.32• Size of GD packets, max.54 byte• Size of GD packet (of which consistent), max.1 variableS7 basic communication54 byte	Number of connectable OPs without message processing	95
• Number of GD loops, max. 16 • Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable	Number of connectable OPs without message processing Data record routing	95
• Number of GD packets, transmitter, max. 16 • Number of GD packets, receiver, max. 32 • Size of GD packets, max. 54 byte • Size of GD packet (of which consistent), max. 1 variable S7 basic communication 1	Number of connectable OPs without message processing Data record routing Global data communication	95 Yes
Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. S7 basic communication	 Number of connectable OPs without message processing Data record routing Global data communication supported 	95 Yes Yes
Size of GD packets, max. 54 byte Size of GD packet (of which consistent), max. 1 variable S7 basic communication	Number of connectable OPs without message processing Data record routing Global data communication supported Number of GD loops, max.	95 Yes Yes 16
Size of GD packet (of which consistent), max. 1 variable S7 basic communication	 Number of connectable OPs without message processing Data record routing Global data communication supported Number of GD loops, max. Number of GD packets, transmitter, max. 	95 Yes 16 16
	 Number of connectable OPs without message processing Data record routing Global data communication supported Number of GD loops, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. 	95 Yes 16 16 32
• supported Yes	 Number of connectable OPs without message processing Data record routing Global data communication supported Number of GD loops, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. 	95 Yes 16 16 32 54 byte
	 Number of connectable OPs without message processing Data record routing Global data communication supported Number of GD loops, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 	95 Yes 16 16 32 54 byte

	70 hite
 User data per job, max. User data per job (of which consistent) max 	76 byte 1 variable
User data per job (of which consistent), max.	1 Variable
S7 communication	Vee
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	Very Vie EC AC, CEND and AC, DECV, may vie 10 CD 442 1 or 442 5
supported	Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5
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 CPU, max. 	64/64
Standard communication (FMS)	
supported	Yes; Via CP and loadable FB
Number of connections	
overall	96
usable for PG communication	95
— reserved for PG communication	1
— adjustable for PG communication, max.	0
usable for OP communication	95
 reserved for OP communication 	1
— adjustable for OP communication, max.	0
usable for S7 basic communication	94
 reserved for S7 basic communication 	0
 — adjustable for S7 basic communication, max. 	0
usable for S7 communication	94
 reserved for S7 communication 	0
 — adjustable for S7 communication, max. 	0
usable for routing	47
— reserved for routing	0
— adjustable for routing, max.	0
S7 message functions	
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	Yes
SCAN procedure	Yes
Program alarms	Yes
Process diagnostic messages	Yes
simultaneously active Alarm_S blocks, max.	1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks
Alarm 8-blocks	Yes
 Number of instances for alarm 8 and S7 communication blocks, max. 	4 000
• preset, max.	600
Process control messages	Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	32
Number of messages	
• overall, max.	1 024
• in 100 ms grid, max.	128
• in 500 ms grid, max.	512
• in 1000 ms grid, max.	1 024
Number of additional values	
• with 100 ms grid, max.	1
• with 500, 1000 ms grid, max.	10
Test commissioning functions	
Status block	Yes; Up to 16 simultaneously
Single step	Yes
· · ·	
Number of breakpoints	16
· · ·	16 Yes; Up to 16 variable tables

Subject to change without notice © Copyright Siemens

Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
 Number of variables, max. 	70; Status/control
Forcing	
Forcing	Yes
 Forcing, variables 	Inputs, outputs, bit memories, peripheral inputs, peripheral outputs
 Number of variables, max. 	512
Diagnostic buffer	
• present	Yes
Number of entries, max.	3 200
— adjustable	Yes
— preset	120
Service data	
• can be read out	Yes
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	
• ATEX	ATEX II 3G Ex nA IIC T4 Gc
Ambient conditions	
Ambient temperature during operation	
● min.	0°0
• max.	60 °C
configuration / header	
Configuration software	
• STEP 7	Yes
configuration / programming / header	
Command set	see instruction list
Nesting levels	7
-	Yes
- Access to consistent data in process image	
 Access to consistent data in process image System functions (SEC) 	
System functions (SFC)	see instruction list
System functions (SFC)System function blocks (SFB)	
 System functions (SFC) System function blocks (SFB) Programming language 	see instruction list see instruction list
 System functions (SFC) System function blocks (SFB) Programming language LAD 	see instruction list see instruction list Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD 	see instruction list see instruction list Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL 	see instruction list see instruction list Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL 	see instruction list see instruction list Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC 	see instruction list see instruction list Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes SFC / header
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously actives DPSYC_FR D_ACT_DP 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes SFC / header
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously actives DPSYC_FR D_ACT_DP 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 12; per interface
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 12; per interface 8; SFC 59; per interface
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC WR_REC 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 12; per interface 8; SFC 59; per interface 8; SFC 59; per interface
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC WR_REC WR_PARM 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC WR_REC WR_PARM PARM_MOD 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 12; per interface 8; SFC 59; per interface 8; SFC 59; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 56; per interface 8; SFC 57; per interface 8; SFC 57; per interface 8; SFC 56; per interface 8; SFC 57; per interface 8; SFC 57; per interface 8; SFC 56; per interface 8; SFC 57; per interface
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 59; per interface 8; SFC 50; per interface 8; SFC 51
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously active DPSYC_FR D_ACT_DP RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL 	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously actives DPSYC_FR D_ACT_DP RD_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL 	see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 29; per interface 8; SFC 59; per interface 8; SFC 59; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 56; per interface 8; SFC 57; per interface 8; SFC 51; per interface 8; SFC 51 1; SFC 103; per interface
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously actives DPSYC_FR D_ACT_DP RD_REC WR_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL 	see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 59; per interface 8; SFC 59; per interface 8; SFC 59; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 57; per interface 8; SFC 57; per interface 8; SFC 13; per interface 8; SFC 13; per interface 8; SFC 13; per interface 8; SFC 51 1; SFC 103; per interface 8; SFB 14; per interface
 System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® configuration / programming / number of simultaneously actives DPSYC_FR D_ACT_DP RD_REC WR_PARM PARM_MOD WR_DPARM DPNRM_DG RDSYSST DP_TOPOL 	see instruction list see instruction list Yes Yes Yes Yes Yes SFC / header 2; SFC 11; per interface 8; SFC 29; per interface 8; SFC 59; per interface 8; SFC 59; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 55; per interface 8; SFC 56; per interface 8; SFC 57; per interface 8; SFC 51; per interface 8; SFC 51 1; SFC 103; per interface

User program protection/password protection	Yes
Block encryption Dimensions	Yes; With S7 block Privacy
Dimensions	
Width	50 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	900 g

last modified:

12/8/2024 🖸