SIEMENS

Data sheet

6ES7318-3EL01-0AB0



SIMATIC S7-300 CPU 319-3 PN/DP, Central processing unit with 2 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface DP master/slave 3rd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information	
Product function	
Isochronous mode	Yes; Via 2nd PROFIBUS DP or PROFINET interface
Engineering with	
Programming package	STEP 7 V5.5 or higher
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
 Mains/voltage failure stored energy time 	5 ms
Repeat rate, min.	1 s
Input current	
Current consumption (rated value)	1 250 mA
Current consumption (in no-load operation), typ.	500 mA
Inrush current, typ.	4 A
I²t	1.2 A ² ·s
Power loss	
Power loss, typ.	14 W
Memory	
Work memory	
 integrated 	2 048 kbyte
expandable	No
Load memory	
 Plug-in (MMC) 	Yes
 Plug-in (MMC), max. 	8 Mbyte
 Data management on MMC (after last programming), min. 	10 y
Backup	
present	Yes
without battery	Yes
CPU processing times	
for bit operations, typ.	0.004 µs
for word operations, typ.	0.01 µs
for fixed point arithmetic, typ.	0.01 µs
for floating point arithmetic, typ.	0.04 µs

CPU-blocks	
Number of blocks (total)	4 096; (DBs, FCs, FBs); the maximum number of loadable blocks can
	be reduced by the MMC used.
DB	
Number, max.	4 096; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	4 096; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
 Number, max. 	4 096; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
 Number of time alarm OBs 	1; OB 10
 Number of delay alarm OBs 	2; OB 20, 21
Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35 (OB 35: smallest settable clock pulse = 500 μs)
Number of process alarm OBs	1; OB 40
Number of DPV1 alarm OBs	3; OB 55, 56, 57
Number of isochronous mode OBs	1; OB 61
Number of startup OBs	1; OB 100
Number of asynchronous error OBs	6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	2, 00 121, 122
per priority class	16
 additional within an error OB 	4
	4
Counters, timers and their retentivity	
S7 counter	0.040
• Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	Z 0 to Z 7
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	

Retentive data area (incl. timers, counters, flags), max.	700 kbyte
Flag	
• Size, max.	8 192 byte
Retentivity available	Yes; From MB 0 to MB 8 191
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	
Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
 per priority class, max. 	32 768 byte; Max. 2048 bytes per block
Address area	
I/O address area	
Inputs	8 192 byte
Outputs	8 192 byte
of which distributed	0 102 Syle
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	0.102.03(0
Inputs	8 192 byte
	8 192 byte
Outputs	
Inputs, adjustable	8 192 byte
Outputs, adjustable	8 192 byte
Inputs, default	256 byte
Outputs, default	256 byte
Subprocess images	
 Number of subprocess images, max. 	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	5,00
• Inputs	65 536
— of which central	1 024
Outputs	65 536
— of which central	1 024
Analog channels	1021
Inputs	4 096
— of which central	256
Outputs	4 096
— of which central	256
Hardware configuration	250
Number of DP masters	
• integrated	2
• via CP	4
Number of operable FMs and CPs (recommended)	0
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	1
Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
 Hardware clock (real-time) 	Yes
 retentive and synchronizable 	Yes
Backup time	6 wk; At 40 °C ambient temperature
 Deviation per day, max. 	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup	Clock continues to run with the time at which the power failure occurred
period	

Operating hours counter	
Number	4
 Number/Number range 	0 to 3
 Range of values 	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
retentive	Yes; Must be restarted at each restart
Clock synchronization	
 supported 	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
• to DP, slave	Yes
 in AS, master 	Yes
• in AS, slave	Yes
 on Ethernet via NTP 	Yes; As client
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Analog outputs	•
Number of analog outputs	0
	0
Interfaces	
Number of industrial Ethernet interfaces	1; 2 ports (switch) RJ45
Number of PROFINET interfaces	1; 2 ports (switch) RJ45
Number of RS 485 interfaces	2; Combined MPI / PROFIBUS DP and PROFIBUS DP
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Interface type Isolated	Integrated RS 485 interface Yes
Isolated Interface types	Yes
Isolated	
Isolated Interface types	Yes
Isolated Interface types • RS 485	Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI	Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols	Yes Yes 150 mA Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI	Yes Yes 150 mA Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master	Yes Yes 150 mA Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max.	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services — PG/OP communication	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication, as client	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication, as client - S7 communication, as server	Yes Yes 150 mA Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication, as client	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as server PROFIBUS DP master • Transmission rate, max.	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • 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 • Transmission rate, max. • Number of DP slaves, max.	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as server PROFIBUS DP master • Transmission rate, max.	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server PROFIBUS DP master • Transmission rate, max. • Number of DP slaves, max. Services - PG/OP communication	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • 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 • Transmission rate, max. • Number of DP slaves, max. Services - PG/OP communication - Routing	Yes Yes 150 mA Yes Yes Yes Yes; A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as server PROFIBUS DP master • Transmission rate, max. • Number of DP slaves, max. Services - PG/OP communication - Routing - Global data communication - Routing - Routing - Global data communication	Yes Yes Yes Yes Yes Yes, A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes No; but via CP and loadable FB Yes Yes No; but via CP and loadable FB Yes No; but via CP and loadable FB
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • 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 • Transmission rate, max. • Number of DP slaves, max. Services - PG/OP communication - Routing	Yes Yes 150 mA Yes Yes Yes Yes Yes, A DP slave at both interfaces simultaneously is not possible No 12 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye

- SY communication, as server Yes - SY communication, as server Yes - Equidistance - SY communication, as server Yes - Equidistance - SY communication, as server Yes - Equidistance - SY communication, as server Yes - SY communication, as server Yes - Activation/deartivation of DP slaves Yes - Activation/deartivat		
 Sommunication, as server Yes Equidistance Yes Electronous mode No SYNCPREEZE Yes Activationidadivation of DP slaves Simultaneously activatedirectivated, max. Direct data exchange (slave-to-slave communication) DPV1 Yes Address area Inputs, max. B ktyle User data per DP slaves Automication and the search Yes, as subscriber Outputs, max. B ktyle User data per DP slaves Transmission rate, max. Yes, on youth passive interface Address area, max. User data per address area, max. Services PROFIBUS DP slaves Transmission rate, max. Services Services	— S7 communication	Yes
 — Equidistance — Equidistance — Eventionnum mode No — SYNC/REEZE Yes — Activation/desclutation of DP slaves Yes — Activation/desclutation of DP slaves Yes — Unref of DP slaves that can be simultaneously subtractive/desclutation, max. — Direct data exchange (slave-to-slave can be simultaneously subtractive) Yes; as subscriber — Direct data exchange (slave-to-slave can be subscriber — Direct data exchange (slave-to-slave can be subscriber — Direct data exchange (slave-to-slave can be subscriber — Outputs, max. B kbyte — Outputs, max. 244 byte — Defore communication Address area, max. 32 byte Berrices — Address area, max. 32 byte Berrices — PGOP communication — S7 communication, as citient No — S7 communication, as citient — Outputs — Outputs — Outputs — Dervit No — S7 communication, as citient — Outputs — Outputs — Outputs — Outputs — Outputs — Outputs — Poropet — Poropet — Poropet	 — S7 communication, as client 	No
 bochronous mode No SYNCPREEZE Ves Activation/deactivation of DP slaves Yes Number of DP slaves that can be simultaneously activated/decathrated, max. Dred data activation (status) DPV1 Yes; as subscriber Definition Status Status	 — S7 communication, as server 	Yes
 SYNCFREEZE Ves Advisorindsachivation OP slaves that can be simultaneously advisated/deachivated, max. Direct date exchange (slave-to-slave communication) D/V1 Ves Address area Inspits, max. Ak biyle Outputs, max. Ak biyle Outputs, max. Address area, max. Add	— Equidistance	Yes
- Activation/decativation of DP staves Yes - Number of DP staves that can be as molitalineously advated/selectuation (as that can be as molitalineously advated/selectuation (as the control of the control	— Isochronous mode	No
	- SYNC/FREEZE	Yes
simultaneously advised/deat/releationDiruct data exchange (slave-to-slave communication)Yes, as subscriberDyP1YesAddress area8 kbyteUpubs, max.8 kbyteUser data per DP slave	 Activation/deactivation of DP slaves 	Yes
- Direct data Sexchange (slave-to-slave communication) - DPV1 Yes Address area - Dutputs, max, 8 ktyte - Outputs, max, 8 ktyte - Outputs, max, 8 ktyte - Outputs, max, 244 byte - Outputs, max, 244 byte PROFIBUS DP slave - Transmission rate, max, 12 MbH/s - automatic baud rate search - Address area, max, 32 - User data per address area, max, 32 - BOC/P communication - ROuting - ROuting - ROUTP - ROUTP - ST communication - Direct data exchange (slave-to-slave communication - PROFINET ID Controler - Roe Roe Roe - PROFINED DP slave - Outputs DP slave - PROFINED DP slave - PROFINED DP slave - Roe Roe Roe Roe - PROFINED DP slave - PROFINED D	 — Number of DP slaves that can be 	8
communication) communication) - Inputs, max, 8 kbyte - Outputs, max, 8 kbyte User data per DP slave - Outputs, max, 244 byte - Outputs, max, 244 byte - Outputs, max, 244 byte - Outputs, max, 244 byte - Outputs, max, 244 byte - Outputs, max, 244 byte - Outputs, max, 244 byte - Outputs, max, 32 byte - Transmission rate, max, 32 byte - Address area, max, 32 byte - Services - - PGO/P communication No - Solobal data communication No - S7 basic communication Yes, Connection configured on one side only - S7 communication, as eliver Yes, Connection configured on one side only - Outputs 244 byte - Out	simultaneously activated/deactivated, max.	
DPV1 Yes Address area 8 kbyte Outputs, max. 8 kbyte Outputs, max. 8 kbyte Outputs, max. 8 kbyte Dutputs, max. 244 byte Outputs, max. 22 byte Outputs, max. 32 Outputs, max. 32 Outputs, max. 32 Outputs 32 Deror communication No S7 communication Yes Outputs Yes Direct data exchange (slave-to-slave communication No DrV1 No DrV1 No Dreroti Yes		Yes; as subscriber
Address area Address area - Inputs, max. 8 kbyte - Outputs, max. 8 kbyte User data per DP size	communication)	
- Inputs, max. 8 kbyte - Outputs, max. 8 kbyte - Outputs, max. 244 byte PROFIBUS DP stave 12 Mbit/s • automatic baut rate search Yes; only with passive interface • Address area, max. 32 • User data per address area, max. 32 • User data per address area, max. 32 • Services - - PGUOP communication Yes - Rotuing Yes: with interface active - Rotuing Yes - Services Yes - Service Yes - Services Yes - Services Yes - Dutput durrent of the interface, max. 244 byte - Output durrent of the interface, max. 200 mA Protocols No Yes	— DPV1	Yes
− Outputs, max. 8 kbyte User data per DP slave 244 byte − Outputs, max. 244 byte − Outputs, max. 244 byte ■ Chiputs, max. 24 byte ■ Transmission rate, max. 12 Mbit/s ■ automatic bauf rate search Yes; only with passive interface ■ Address area, max. 32 > User data per address area, max. 32 Services − − PGiOP communication Yes; with interface active − Routing Yes: with interface active − Sto data communication No − ST communication, as dirent No − ST communication, as server Yes: Connection configured on one side only − Diputs 244 byte − Outputs 244 byte 2. Interface Yes − Diputs 244 byte − Outputs 244 byte 2. Output ourent of the interface, max. 200 mA Protocols Yes Interface type Integrated RS 485 interface Isolated Yes Protocols	Address area	
User data per CP slave 244 byte - Inputs, max. 244 byte PROFIEUS DP slave 12 Mbits * Transmission rate, max. 12 Mbits • automatic baad rate search Yas; only with passive interface • Address area, max. 32 • User data per address area, max. 32 Services - - PG(OP communication Yes - Global data communication No - S7 communication Yes - S7 communication No - S7 communication Yes - S7 communication, as lenet Yes; Connection configured on one side only - Direct data exchange (slave-to-slave communication) No - Inputs 244 byte - Outputs 244 byte 2.Interface Integrated RS 485 interface Isoleted	— Inputs, max.	8 kbyte
	— Outputs, max.	8 kbyte
Outputs, max. 244 byte PROFIBUS DP slave	User data per DP slave	
PROFIBUS DP slave 12 Mbl/s • Transmission rate, max. 12 Mbl/s • automatic baud rate search Yes; only with passive interface • Address area, max. 32 • User data per address area, max. 32 Services - - PG/OP communication Yes - Routing Yes; with interface active - Soft data communication No - S7 communication Yes - S7 communication, as client No - S7 communication, as enver Yes; Connection configured on one side only - Dired tdat acchange (slave-to-slave communication) No - S7 communication, as enver Yes; Connection configured on one side only - Dired tdat acchange (slave-to-slave communication) No - Dret data acchange (slave-to-slave communication) No - Dupts 244 byte 2 Interface Integrated RS 485 interface Isolated Yes Interface type Integrated RS 485 interface Isolated Yes • Output current of the interface, max. 200 mA Protocols No • PROFINET IO Controller No </td <td>— Inputs, max.</td> <td>244 byte</td>	— Inputs, max.	244 byte
• Transmission rate, max. 12 Mbit/s • automatic baud rate search · Yes; only with passive interface · Address area, max. 32 • User data per address area, max. 32 byte — PG(OP communication Yes; with interface active — PG(OP communication Yes; with interface active — Global data communication No — S7 communication, as client No — S7 communication, as scient No — S7 communication, as scient No — Dired data exchange (slave-to-slave communication), as server Yes; Connection configured on one side only — DPv1 No Transfer memory — Inputs 244 byte — Outputs 244 byte 2. Interface type RS 485 • RS 485 velocupt ROFINET 10 Controller No	— Outputs, max.	244 byte
• automatic baud rate search Yes; only with passive interface • Address area, max. 32 • User data per address area, max. 32 Services - - PG/OP communication Yes - Robing Yes; with interface active - Global data communication No - S7 basic communication Yes - S7 communication, as client No - S7 communication, as server Yes; Connection configured on one side only - Direct data exchange (slave-to-slave communication) Yes - Direct data exchange (slave-to-slave communication) No - Direct data exchange (slave-to-slave communication) Yes - Direct data exchange (slave-to-slave communication) No - Direct data exchange (slave-to-slave communication) Yes - Direct data exchange (slave-to-slave communication) Yes - Duptis 244 byte 2 Interface type Integrated RS 485 interface Isolated Yes Interface type Integrated RS 485 interface Isolated Yes • Output current of the interface, max. 200 mA Protocols No • PROFINET IO Controller No • PROFINET TO Controller No • PROFINET CBA No	PROFIBUS DP slave	
Address area, max. 32 User data per address area, max. 32 byte Services — PG/OP communication — Routing — Rou	Transmission rate, max.	12 Mbit/s
Address area, max. 32 User data per address area, max. 32 byte Services — PG/OP communication — Routing — Rou		Yes; only with passive interface
User data per address area, max. 32 byte Services PGOP communication Yes, with interface active Routing Yes, with interface active Global data communication No S7 communication S7 communication S7 communication S7 communication, as server S7 communication, as server S7 communication, as server Ses, Connection configured on one side only Direct data exchange (slave-to-slave communication) S7 communication, as server Ses communication S7 communication, as server Ses communication S9 communication, as server Ses communication S9 communication, as server Ses communication S9 communication S0 communication S9 communication	 Address area, max. 	
Services PG/OP communication Yes		
- RoutingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communication, as clientNo- S7 communication, as serverYes; Connection configured on one side only- Direct data exchange (slave-to-slave communication)Yes- DPV1NoTransfer memory244 byte- Outputs244 byte2. Interface typeIntegrated RS 485 interfaceInterface typeIntegrated RS 485 interfaceInterface typeVes• RS 485Yes• PROFINET IO ControllerNo• PROFINET IO ControllerNo• PROFINET IO ControllerNo• PROFINET IO DeviceNo• PROFINET DeviceNo• PROFINET IO DeviceNo• PROFINET DeviceNo• PROFINET DeviceNo• PROFINET DeviceNo• PROFINET DeviceNo• PROFINET DeviceNo• PROFINET DeviceNo• PROFINED De masterYes• PROFINED De masterYes• PROFINED De masterYes• PROFINET DeviceNo• PROFINET DeviceNo• PROFINED De masterYes• PROFINED De masterYes• PROFINED De masterInterface simultaneously is not possible• Open IE communicationNo• No		Yes
Global data communication No S7 basic communication No S7 communication Yes S7 communication, as client No S7 communication, as server Yes; Connection configured on one side only Direct data exchange (slave-to-slave communication) Yes DPV1 No Transfer memory - Inputs 244 byte Outputs 244 byte 2. Interface type Integrated RS 485 interface Isolated Yes Interface type Solated Ves Ves Interface type No Protocols Yes • Output current of the interface, max. 200 mA Protocols No • PROFINET IO Controller No • PROFINET IO Device No • PROFINET CBA No • PROFINET CBA Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No • PROFIBUS DP slaves, max. 124 Mbit/s Services - Routing Yes		
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Direct data exchange (slave-to-slave communication) Yes DPV1 No Transfer memory - Inputs 244 byte Outputs 244 byte 2. Interface Integrated RS 485 interface Interface type Integrated RS 485 interface Interface types Yes • RS 485 Yes • Output current of the interface, max. 200 mA Protocols Ves • PROFINET IO Controller No • PROFINET IO Controller No • PROFINET IO Device No • PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • No PROFIBUS DP master • Ves server No • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services - - PG/OP communication Yes - PG/OP communication Yes - PG/OP communication Yes		
communication) No Interface memory 244 byte - Outputs 244 byte 2. Interface 244 byte 2. Interface type Integrated RS 485 interface Interface types Integrated RS 485 interface Interface types Ves - Output current of the interface, max. 200 mA Protocols Ves • PROFINET IO Controller No • PROFINET IO Device No • PROFIBUS DP master Yes • Open IE communication No • Web server No PROFIBUS DP master Yes • DeroFIBUS DP master Yes • PROFIBUS DP master Yes • Open IE communication No • Web server No PROFIBUS DP master Yes • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • PRO/OP communication Yes		
- DPV1NoTransfer memory244 byte- Inputs244 byte- Outputs244 byte2. Interface12. Interface typeIntegrated RS 485 interfaceIsolatedYesInterface typesYes• RS 485Yes• Output current of the interface, max.200 mAProtocolsNo• PROFINET IO ControllerNo• PROFINET IO DeviceNo• PROFIBUS DP masterYes• PROFIBUS DP slaveYes; ADP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNoPROFIBUS DP master12 Mbit/s• Number of DP slaves, max.12 Mbit/s• Number of DP slaves, max.12 Mbit/s• Number of DP slaves, max.124Services PG/OP communicationYes- RoutingYes		Yes
Transfer memory - Inputs 244 byte - Outputs 244 byte 2. Interface Integrated RS 485 interface Isolated Yes Interface types Yes • RS 485 Yes • Output current of the interface, max. 200 mA Protocols No • PROFINET IO Controller No • PROFINET TO Device No • PROFIBUS DP master Yes • Open IE communication No • Web server No • Word DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Routing Yes		No
- Inputs 244 byte - Outputs 244 byte 2. Interface Integrated RS 485 interface Isolated Yes Interface types Yes • RS 485 Yes • Output current of the interface, max. 200 mA Protocols No • PROFINET IO Controller No • PROFINET IO Device No • PROFINET IO Device No • PROFINET IO Device No • PROFIBUS DP master Yes • Open IE communication No • Web server No • PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No • PROFIBUS DP master Yes • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services - - PG/OP communication Yes		NO
- Outputs 244 byte 2. Interface Integrated RS 485 interface Isolated Yes Interface types Yes • RS 485 Yes • Output current of the interface, max. 200 mA Protocols	-	244 bito
2. Interface Interface type Integrated RS 485 interface Isolated Yes Interface types • RS 485 Yes • Output current of the interface, max. 200 mA Protocols • MPI No • PROFINET IO Controller No • PROFINET IO Device No • PROFIBUS DP master Yes • PROFIBUS DP master Yes • PROFIBUS DP slave Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master Yes; • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services - PG/OP communication Yes - Routing Yes	•	
Interface type Integrated RS 485 interface Isolated Yes Interface types • RS 485 • RS 485 Yes • Output current of the interface, max. 200 mA Protocols • • MPI No • PROFINET IO Controller No • PROFINET IO Device No • PROFINET BA No • PROFIBUS DP master Yes • Open IE communication No • Web server No • PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No • PROFIBUS DP master 12 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 124 Services - - PG/OP communication Yes - Routing Yes		244 byte
Isolated Yes Interface types • RS 485 • RS 485 Yes • Output current of the interface, max. 200 mA Protocols • MPI • MPOFINET IO Controller No • PROFINET IO Device No • PROFINET CBA No • PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master - • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services - - PG/OP communication Yes - Routing Yes	2. Interface	
Interface types • RS 485 Yes • Output current of the interface, max. 200 mA Protocols No • MPI No • PROFINET IO Controller No • PROFINET IO Device No • PROFINET CBA No • PROFIBUS DP master Yes • PROFIBUS DP slave Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No PROFIBUS DP master 12 Mbit/s • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services — — PG/OP communication Yes — Routing Yes	Interface type	
• RS 485Yes• Output current of the interface, max.200 mAProtocols• MPINo• PROFINET IO ControllerNo• PROFINET IO DeviceNo• PROFINET CBANo• PROFIBUS DP masterYes• PROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNo• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.124Services—- PG/OP communicationYes- RoutingYes	Isolated	Yes
• Output current of the interface, max.200 mAProtocols• MPINo• PROFINET IO ControllerNo• PROFINET CBANo• PROFINET CBANo• PROFIBUS DP masterYes• PROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNo• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.124Services PG/OP communicationYes- RoutingYes	Interface types	
Protocols No • MPI No • PROFINET IO Controller No • PROFINET IO Device No • PROFINET CBA No • PROFIBUS DP master Yes • PROFIBUS DP slave Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No • PROFIBUS DP master Yes; A DP slave at both interfaces simultaneously is not possible • Open IE communication No • Web server No • PROFIBUS DP master 12 Mbit/s • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services — PG/OP communication - PG/OP communication Yes - Routing Yes	• RS 485	Yes
• MPINo• PROFINET IO ControllerNo• PROFINET IO DeviceNo• PROFINET CBANo• PROFIBUS DP masterYes• PROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNoPROFIBUS DP masterYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNoPROFIBUS DP master12 Mbit/s• Transmission rate, max.124Services- PG/OP communication- PG/OP communicationYes- RoutingYes	 Output current of the interface, max. 	200 mA
• PROFINET IO ControllerNo• PROFINET IO DeviceNo• PROFINET CBANo• PROFIBUS DP masterYes• PROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNo• Web serverNo• PROFIBUS DP master12 Mbit/s• Transmission rate, max.124• Number of DP slaves, max.124• PG/OP communicationYes- PG/OP communicationYes• Number of DP slaves, max.124• ServicesYes- PG/OP communicationYes• RoutingYes	Protocols	
• PROFINET IO DeviceNo• PROFINET CBANo• PROFIBUS DP masterYes• PROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNo• Web serverNo• PROFIBUS DP masterYes• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.124• PG/OP communicationYes• PG/OP communicationYes• PG/OP communicationYes	• MPI	No
PROFINET CBANoPROFIBUS DP masterYesPROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possibleOpen IE communicationNoWeb serverNoWeb serverNoPROFIBUS DP master12 Mbit/s• Transmission rate, max.124• Number of DP slaves, max.124Services—- PG/OP communicationYes- PG/OP communicationYes	PROFINET IO Controller	No
PROFIBUS DP masterYesPROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possibleOpen IE communicationNoWeb serverNoPROFIBUS DP master12 Mbit/s• Transmission rate, max.124• Number of DP slaves, max.124Services PG/OP communicationYes- RoutingYes	PROFINET IO Device	No
PROFIBUS DP masterYesPROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possibleOpen IE communicationNoWeb serverNoPROFIBUS DP master12 Mbit/s• Transmission rate, max.124• Number of DP slaves, max.124Services PG/OP communicationYes- RoutingYes	PROFINET CBA	No
• PROFIBUS DP slaveYes; A DP slave at both interfaces simultaneously is not possible• Open IE communicationNo• Web serverNo• NoPROFIBUS DP master• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.124Services PG/OP communicationYes- RoutingYes	PROFIBUS DP master	Yes
Open IE communicationNo• Web serverNoPROFIBUS DP master• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.124Services- PG/OP communicationYes- RoutingYes		Yes: A DP slave at both interfaces simultaneously is not possible
Web server No PROFIBUS DP master 12 Mbit/s • Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services - - PG/OP communication Yes - Routing Yes		
PROFIBUS DP master • Transmission rate, max. • Number of DP slaves, max. 124 Services - PG/OP communication - Routing Yes		
• Transmission rate, max. 12 Mbit/s • Number of DP slaves, max. 124 Services		
• Number of DP slaves, max. 124 Services		12 Mbit/s
Services — PG/OP communication Yes — Routing Yes		
— PG/OP communication Yes — Routing Yes		124
- Routing Yes		No.
- Global data communication No	0	
	— Global data communication	No

 — S7 basic communication 	Yes; I blocks only
— S7 communication	Yes
- S7 communication, as client	No
— S7 communication, as server	Yes; Connection configured on one side only
— Equidistance	Yes
— Isochronous mode	Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
— SYNC/FREEZE	Yes
 Activation/deactivation of DP slaves 	Yes
— Number of DP slaves that can be	8
simultaneously activated/deactivated, max.	
 — Direct data exchange (slave-to-slave communication) 	Yes; as subscriber
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— inputs, max. — Outputs, max.	244 byte
	בויטונס
PROFIBUS DP slave	The latest COD file is excitable at http://www.inc.com/
• GSD file	The latest GSD file is available at: http://www.siemens.com/profibus-gsd
Transmission rate, max.	12 Mbit/s
 automatic baud rate search 	Yes; only with passive interface
 Address area, max. 	32
 User data per address area, max. 	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes; with interface active
 — Global data communication 	No
— S7 basic communication	No
- S7 communication	Yes
- S7 communication, as client	No
- S7 communication, as server	Yes; Connection configured on one side only
— Direct data exchange (slave-to-slave	Yes
communication)	
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
3. Interface	
	Vee
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes
Interface types	
RJ 45 (Ethernet)	Yes
 Number of ports 	2
 integrated switch 	Yes
Protocols	
• MPI	No
PROFINET IO Controller	Yes; Also simultaneously with I-Device functionality
PROFINET IO Device	Yes; Also simultaneously with IO Controller functionality
PROFINET CBA	Yes
PROFIBUS DP master	No
PROFIBUS DP slave	No
Open IE communication	Yes; Via TCP/IP, ISO on TCP, and UDP
Web server	Yes

Media redundancy	Yes
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
- Routing	Yes
— S7 communication	
	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
— Isochronous mode	Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
— Shared device	Yes
— Prioritized startup	Yes
 — Number of IO devices with prioritized startup, max. 	32
 — Number of connectable IO Devices, max. 	256
 — Of which IO devices with IRT, max. 	64
— of which in line, max.	64
 — Number of IO Devices with IRT and the option "high flexibility" 	256
— of which in line, max.	61
 — Number of connectable IO Devices for RT, max. 	256
- of which in line, max.	256
— Activation/deactivation of IO Devices	Yes
— Number of IO Devices that can be	8
simultaneously activated/deactivated, max. — IO Devices changing during operation (partner	Yes
ports), supported	
— Number of IO Devices per tool, max.	8
Device replacement without swap medium	Yes
— Send cycles	250 $\mu s,$ 500 $\mu s,$ 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option)
— Updating time	250 μs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details)
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
 User data consistency, max. 	1 024 byte
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Routing	Yes
— S7 communication	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device
— Shared device	Yes
 Number of IO Controllers with shared device, 	2
max.	
Transfer memory	
— Inputs, max.	1 440 byte; Per IO Controller with shared device
— Outputs, max.	1 440 byte; Per IO Controller with shared device
Submodules	
— Number, max.	64
— User data per submodule, max.	1 024 byte
PROFINET CBA	
acyclic transmission	Yes
cyclic transmission	Yes
Open IE communication	

- Number of connections, max.
- Local port numbers used at the system end

• Keep-alive function, supported

 $0,\,20,\,21,\,23,\,25,\,80,\,102,\,135,\,161,\,443,\,8080,\,34962,\,34963,\,34964,\,65532,\,65533,\,65534,\,65535$

Yes

32

• Reep-alive function, supported	Tes
rotocols	
Redundancy mode	
Media redundancy	
 — Switchover time on line break, typ. 	200 ms; PROFINET MRP
 Number of stations in the ring, max. 	50
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	32
— Data length for connection type 01H, max.	1 460 byte
— Data length for connection type 11H, max.	32 768 byte
- several passive connections per port,	Yes
supported	Manuale intervented DDOCINET interface, and landable ED-
• ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	32
— Data length, max.	32 768 byte
• UDP	Yes; via integrated PROFINET interface and loadable FBs
 Number of connections, max. 	32
— Data length, max.	1 472 byte
Web server	
 supported 	Yes
 User-defined websites 	Yes
Number of HTTP clients	5
communication functions	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
 supported 	Yes
 Number of GD loops, max. 	8
 Number of GD packets, max. 	8
 Number of GD packets, transmitter, max. 	8
 Number of GD packets, receiver, max. 	8
 Size of GD packets, max. 	22 byte
 Size of GD packet (of which consistent), max. 	22 byte
S7 basic communication	
supported	Yes
• User data per job, max.	76 byte
• User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
S7 communication	
supported	
as server	Yes
• as client	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and
as clientUser data per job, max.	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of
• User data per job, max.	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB
User data per job, max. S5 compatible communication	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)
User data per job, max. S5 compatible communication e supported	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of
User data per job, max. S5 compatible communication supported PROFINET CBA (at set setpoint communication load)	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) Yes; via CP and loadable FC
User data per job, max. S5 compatible communication supported PROFINET CBA (at set setpoint communication load) Setpoint for the CPU communication load	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) Yes; via CP and loadable FC 20 %
 User data per job, max. S5 compatible communication supported PROFINET CBA (at set setpoint communication load) Setpoint for the CPU communication load Number of remote interconnection partners 	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) Yes; via CP and loadable FC 20 % 32
 User data per job, max. S5 compatible communication supported PROFINET CBA (at set setpoint communication load) Setpoint for the CPU communication load Number of remote interconnection partners Number of functions, master/slave 	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) Yes; via CP and loadable FC 20 % 32 50
 User data per job, max. S5 compatible communication supported PROFINET CBA (at set setpoint communication load) Setpoint for the CPU communication load Number of remote interconnection partners Number of functions, master/slave Total of all master/slave connections 	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) Yes; via CP and loadable FC 20 % 32 50 3 000
 User data per job, max. S5 compatible communication supported PROFINET CBA (at set setpoint communication load) Setpoint for the CPU communication load Number of remote interconnection partners Number of functions, master/slave 	Yes Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) Yes; via CP and loadable FC 20 % 32 50

 usable for OP communication reserved for OP communication adjustable for OP communication, min. adjustable for OP communication, max. usable for S7 basic communication adjustable for S7 basic communication adjustable for S7 basic communication adjustable for S7 basic communication, min. adjustable for S7 basic communication, min. adjustable for S7 basic communication, max. usable for S7 communication adjustable for S7 communication adjustable for S7 communication adjustable for S7 communication, min. adjustable for S7 communication, min. adjustable for S7 communication, max. total number of instances, max. usable for routing S7 message functions Number of login stations for message functions, max.	31 1 1 31 30 0 0 0 30 16 0 0 16 32 X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as DP master: max. 24; X2 as DP slave (active): max. 14; X3 as PROFINET: 48 max. 32; Depending on the configured connections for PG/OP and S7 basic communication Yes
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usable for OP communication — reserved for OP communication	1
usable for OP communication	
-	04
 adjustable for PG communication, max. 	31
— adjustable for PG communication, min.	1
— reserved for PG communication	1
usable for PG communication	31
• overall	32
Number of connections	
— Data length per connection, max.	240 byte; Slave-dependent
— Number of linked PROFIBUS devices	32
— supported	Yes
PROFIBUS proxy functionality	Vee
— Data length of all HMI variables, max.	9 600 byte
— Number of HMI variables	600 0.600 bits
— HMI variable updating	500 ms
variables (PN OPC/iMap)	500 mg
— Number of stations that can log on for HMI	3; 2x PN OPC/1x iMap
HMI variables via PROFINET (acyclic)	
 — Data length per connection, max. 	450 byte
max.	
 — Data length of all outgoing interconnections, 	4 800 byte
max.	
— Data length of all incoming interconnections,	4 800 byte
— Number of outgoing interconnections	300
— Number of incoming interconnections	300
 Transmission frequency: Transmission interval, min. 	1 ms
Remote interconnections with cyclic transmission	1 ma
— Data length per connection, max.	1 400 byte
max.	1 400 hite
 — Data length of all outgoing interconnections, 	3 200 byte
max.	
 — Data length of all incoming interconnections, 	3 200 byte
 — Number of outgoing interconnections 	100
 Number of incoming interconnections 	100
— Sampling interval, min.	200 ms
Remote interconnections with acyclic transmission	
 Data length per connection, max. 	1 400 byte
interconnections, max.	
	8 000 byte
Data length of device-internal und PROFIBUS	
 Number of device-internal and PROFIBUS interconnections Data length of device-internal und PROFIBUS 	1 000

Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
Status/control variable	Yes
Variables	Inputs, outputs, memory bits, DB, times, counters
 Number of variables, max. 	30
— of which status variables, max.	30
— of which control variables, max.	14
Forcing	
• Forcing	Yes
Forcing, variables	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
• present	Yes
Number of entries, max.	500
— adjustable	No
— of which powerfail-proof	100
Number of entries readable in RUN, max.	499
- adjustable	Yes; From 10 to 499
— preset	10
Service data	10
• can be read out	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
Configuration	
Configuration software	
• STEP 7	Yes; V5.5 or higher
Programming	
Command set	see instruction list
Nesting levels	8
 System functions (SFC) 	see instruction list
System function blocks (SFB)	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
 User program protection/password protection 	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	120 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	1 250 g
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