SIEMENS

Data sheet

6ES7318-3FL01-0AB0



SIMATIC S7-300 CPU319F-3 PN/DP, Central processing unit with 2.5 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface DP master/slave 3rd interface Ethernet PROFINET, Micro Memory Card required

General information	
HW functional status	01
Firmware version	V3.2
Product function	
Isochronous mode	Yes; Via 2nd PROFIBUS DP or PROFINET interface
Engineering with	
 Programming package 	STEP 7 V5.5 or higher, Distributed Safety V5.4 SP4
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	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
² t	1.2 A ² ·s
Power loss	
Power loss, typ.	14 W
Memory	
Work memory	
integrated	2 560 kbyte
• expandable	No
Load memory	
Plug-in (MMC)	Yes
• Plug-in (MMC), max.	8 Mbyte
 Data management on MMC (after last programming), min. 	10 a
Backup	
• present	Yes
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	_, 32 1E1, 1EE
per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	4
S7 counter	
• 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	
-	8 102 bute
Size, max.Retentivity available	8 192 byte Ves: From MB 0 to MB 8 191
	Yes; From MB 0 to MB 8 191

MB 0 to MB 15
8; 1 memory byte
Yes; via non-retain property on DB
Yes
Tes
32 768 byte; Max. 2048 bytes per block
8 192 byte
8 192 byte
8 192 byte
8 192 byte
8 192 byte
1 024 byte
1 024 byte
102103(0
1; With PROFINET IO, the length of the user data is limited to 1600 bytes
r, with PROFINET 10, the length of the user data is inflited to 1600 bytes
65 536
1 024
65 536
1 024
4 096
256
256 4 096
256
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256 4 096
256 4 096 256
256 4 096 256 2
256 4 096 256 2
256 4 096 256 2 2 4 8
256 4 096 256 2 2 4 3 8 8
256 4 096 256 2 2 4 8
256 4 096 256 2 4 8 8 8 8 10
256 4 096 256 2 2 4 8 8 8 8 10
256 4 096 256 2 4 8 8 8 8 10
256 4 096 256 2 2 4 8 8 8 8 10
256 4 096 256 2 2 4 8 8 8 8 10
256 4 096 256 2 2 4 8 8 8 8 10
256 4 096 256 2 2 4 8 8 8 8 10 10 4 8
256 4 096 256 2 2 4 3 8 8 8 8 10 4 8 8 10 4 8 7 8
256 4 096 256 2 2 4 3 8 8 8 10 4 8 8 10 4 8 8 10 7 8 8 10 7 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 2 4 3 8 8 8 10 4 4 8 7 9 7 9 7 9 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 2 4 3 8 8 8 8 10 10 4 4 8 7 10 7 4 8 8 10 7 4 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 2 4 3 8 8 8 10 4 4 8 7 9 7 9 7 9 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 2 4 3 8 8 8 8 10 10 4 4 8 7 10 7 4 8 8 10 7 4 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 2 4 3 8 8 8 8 10 10 4 4 8 7 10 7 4 8 8 10 7 4 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 4 8 8 8 10 4 8 8 10 Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
256 4 096 256 2 4 8 8 8 8 10 4 8 Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 4 0 to 3
256 4 096 256 2 2 4 8 8 8 8 10 4 8 8 8 10 4 8 8 10 4 8 8 10 4 8 10 4 8 5 Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 4 0 to 3 0 to 3 0 to 2^31 hours (when using SFC 101)
256 4 096 256 2 2 4 8 8 8 8 10 4 8 8 8 10 4 8 8 10 4 8 8 10 4 8 10 4 8 10 4 8 10 4 8 10 10 10 10 10 10 10 10 10 10
256 4 096 256 2 2 4 8 8 8 8 10 4 8 8 8 10 4 8 8 10 4 8 8 10 4 8 10 4 8 5 Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off 4 0 to 3 0 to 3 0 to 2^31 hours (when using SFC 101)
256 4 096 256 2 2 4 8 8 8 8 10 4 8 8 8 10 4 8 8 10 4 8 8 10 4 8 10 4 8 10 4 8 10 4 8 10 10 10 10 10 10 10 10 10 10

• 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
Interfaces	
Number of industrial Ethernet interfaces	1
Number of PROFINET interfaces	1
Number of RS 485 interfaces	2
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
 Output current of the interface, max. 	150 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP slave	Yes; A DP slave at both interfaces simultaneously is not possible
 Point-to-point connection 	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
- S7 communication, as client	No; but via CP and loadable FB
- S7 communication, as server	Yes
PROFIBUS DP master	
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	124
Services	
— PG/OP communication	Yes
— Routing	Yes
 — Global data communication 	No
— S7 basic communication	Yes; I blocks only
— S7 communication	Yes
- S7 communication, as client	No
— S7 communication, as server	Yes
— Equidistance	Yes
— Isochronous mode	No
- SYNC/FREEZE	Yes
 Activation/deactivation of DP slaves 	Yes
 Number of DP slaves that can be simultaneously 	8
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	0 Kbyte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	244 Dyle
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 syte
Services	JZ Dýle
— PG/OP communication	Yes
- Routing	Yes; with interface active
— Global data communication	No
- S7 basic communication	No
- S7 basic communication	
	Yes
— S7 communication, as client	No Vas: Connection configurad on one side only
— 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	
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
• 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	
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	124
Services	
— PG/OP communication	Yes
- Routing	Yes
— Routing — Global data communication	No
— Global data communication — S7 basic communication	Yes; I blocks only
— S7 basic communication — S7 communication	Yes
— S7 communication — S7 communication, as client	No
- S7 communication, as server	Yes; Connection configured on one side only
— S7 communication, as server— Equidistance	Yes; Connection configured on one side only Yes
- S7 communication, as server	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not
— S7 communication, as server— Equidistance	Yes; Connection configured on one side only Yes
 S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE 	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes
 S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves 	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes
 S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE 	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes
 S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave 	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes
 S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) 	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 8 Yes; as subscriber
 S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave 	Yes; Connection configured on one side only Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 8

	Innuts may	8 kbyte
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 Inputs, max. Paper, max. Add byte PROFINE OF same Intersisted rate, max. Intersisted rate, max. Intersisted rate, max. Intersisted rate, max. It is an intersisted rate, max.<	•	o kuyte
- Outputs, max. 244 byte PROFINISUS Defects. The Jaken GSD file is available at: http://www.siencens.com/profibus.gad • GSD file is available at: http://www.siencens.com/profibus.gad • Address are, max. 32 • Jack data ger address are, max. 32 • Jack data ger address are, max. 32 • Jack data ger address are, max. 32 • PGIOP communication Ves. - Routing Ves. With Interface active - Routing Ves. With Interface active - ST basic communication No - ST basic communication Ves. - ST communication, as alterit No - ST communication (State active Advector Ves. Commercial as accharge (Stave-to-davector Ves. Commercial active advector davector Ves. Commercial active advector davector Ves. Commor Communication (State active Advector davector Ves. Commor Communication) - Direct data accharge (Stave-to-davector Ves. Commor Communication (State accharge (Stave-to-davector Ves. Commor Of P address at untime, supported Ves. - Number of ports - Number of ports - Routing - Routing	· · · · · · · · · · · · · · · · · · ·	244 hyte
PROFIDEUD DP save Interface • GSD file The failed GSD file is available at: http://www.sienene.com/profibur.gsd • Address ate, max. 32 • Jaser data per address area, max. 32 • Jaser data per address area, max. 32 • Bard data per address area, max. 32 • Bard data per address area, max. 32 • PGOP communication Yes - Roding Yes, with interface active - Obbit data communication No - S7 communication, as dient No - Divid data communication Yes, Connection configured on one side only - Divid data communication Yes - Divid data communication, as divid to the server Yes, Connection configured on one side only - Divid data communication, as divid to the server Yes, Connection configured on one side only - Divid data communication, as divid to the server Yes, Yes - Divid data communication, as divid to the server Yes, Yes - Independent detection of transmission rate Yes, Yes - Autonogatian Yes - Autonogatian Yes - Nother of pols 2 - Nother of po		-
• 650 fls The latest (SSD file is available at: http://www.siencens.com/profilus-gsd • Transmission rate, max. 12 Abits • Automatic bauf rate search 32 • Automatic bauf rate search 32 • For GP communication Yes, only with passive interface • - PGGIP communication Yes, with interface aclive • - Routing Yes, with interface aclive • - Ordio data communication No S7 communication Yes Duptic that accharge (ablew-to-slave Yes Cuputs 244 byte Outputs 244 byte Outputs 244 byte Autoresting Yes Autoresting Yes Outputs 244 byte Autoresting Yes		
Transmission rate, max. advantatic based nate search advantatic based nate nate search advantatic based nate nate search advantatic based nate nate nate nate nate nate nate nate		The latest GSD file is available at: http://www.siemens.com/profibus-osd
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Address area, max, 32 Bevices 32 byle Services 92 byle Bevices 92 byl		
Just data per address area, max. 32 byte Bervices - - RoUng Yes, with interface active - RoUng Yes, with interface active - RoUng Yes, with interface active - Statumunication No - ST communication Yes - ST communication, as server Yes, Connection configured on one side only - Drinet data exchange (alsex-b-site) Yes - Drinet data exchange (Alsex (bint) Drinet data exchange (Alsex (bint) Drinet data e		
Services - PG/OP communication Yes - Routing Yes, with interface active - Global data communication No - ST communication, as client No - ST communication, as client No - ST communication, as client No - Devid data exchange (stave-to-stave communication) No - Devid data exchange (stave-to-stave communication) No - Devid No - Devid Yes - Inputs 244 byte - Optipts 244 byte 2 Interface Interface Interface type PROFINET Iodated Yes - Optipts 244 byte 2 Interface Yes Interface type PROFINET Iodated Yes - Autonorsning Yes - Routing Yes - No Yes - Routing Yes - Interface type Yes - Routing Yes - Routing Yes - Routing Yes - Routing Yes - Routing <td>• User data per address area, max.</td> <td>32 byte</td>	• User data per address area, max.	32 byte
- RoutingYes; with interface active- Global data communicationNo- S7 communication, as (int)Yes- S7 communication, as elivetNo- S7 communication, as elivetNo- S7 communication, as elivetYes; Connection configured on one side only- S7 communication, as serverYes; Connection configured on one side only- DPV1No- DPV1244 byte- Outputs244 byte- OutputsYes2 InterfaceYes- Inputs244 byte- OutputsYes2 Interface typePROFINETInterface typeYes- AutonegolicationYes- AutonegolicationYes- AutonegolicationYes- AutonegolicationYes- None of portsYes- None of portsYes- None of portsYes- None of portsYes- PROFINET IO ControlerYes; Also simultaneously with I-Device functionality- PROFINET IO DeviceYes; Also simultaneously with I-Device functionality- PROFINET IO DeviceYes; No Controler functionality- PROFINET IO DeviceYes; No Control		
- Global data communication No - S7 basic communication Yes - S7 communication, as client No - S7 communication, as ever Yes, Connection configured on one side only - S7 communication, as ever Yes, Connection configured on one side only - Direct data sechange (slave-to-slave communication) Yes - Direct data sechange (slave-to-slave communication) Yes - Inputs 244 byte - Outputs 244 byte - Outputs 244 byte - Outputs 244 byte Interface type PROFINET Interface type Yes automatic detection of transmission rate Yes Autorossing Yes Autorossing Yes No Yes Number of ports 2 - Interface type Yes - NPROFINET IO Controller Yes, Also simultaneously with I-Device functionality - PROFINET IO Controller Yes, Also simultaneously with I-Device functionality - PROFINET IO Controller Yes, Xia TCP/IP, ISO on TCP, and UDP - PROFIBUS DP master No <td>— PG/OP communication</td> <td>Yes</td>	— PG/OP communication	Yes
	— Routing	Yes; with interface active
	- Global data communication	No
	— S7 basic communication	No
S7 communication, as server Yes; Connection configured on one side only Direct data exchange (stave-to-slave communication) Yes Direct data exchange (stave-to-slave communication) No Direct data exchange (stave-to-slave communication) No Direct data exchange (stave-to-slave communication) No Direct data exchange (stave-to-slave communication) Yes Inputs 244 byte Outputs 244 byte 2. Interface PROFINET Isolated Yes Direct data exchange (stave-to-slave communication) Yes 2. Interface type PROFINET Isolated Yes Direct data exchange (stave-to-slave communication) Yes	— S7 communication	Yes
Direct data exchange (slave-lo-slave communication) Yes DPV1 No Transfer memory 244 byte Outputs 245 bits Outputs Yes Outputs Yes Outputs Yes Outputs Yes Outputs Yes Outputs Yes None of ports 2 Note of ports 2 Note of ports 2 PROFINET IO Controller Yes, Also simultaneously with IOE controler functionality PROFINET O	— S7 communication, as client	No
communication) No Interface 244 byte - Inputs 244 byte 3 Interface PROFINET Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s Autocrossing Yes Autocrossing Yes Autocrossing Yes Autocrossing Yes Autocrossing Yes Interface type Products at runtime, supported Interface types Yes Change of IP address at runtime, supported Yes Interface types Yes • R14 56 Ethernet) Yes • Number of ports 2 • integrated switch Yes; Also simultaneously with I-Device functionality • PROFINET IO Controller Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFINELSUS P master No • PROFINELSUS P master No • PROFINELSUS P master No • Open IE controller Yes; Ves • PROFINELSUS P master No • PROFINET IO Co	— S7 communication, as server	Yes; Connection configured on one side only
— DPV1 No Transfer memory 244 byte — lopuls 244 byte — lopuls 244 byte 2.Interface Interface Interface type PROFINET isolated Yes automatic detection of transmission rate Yes Autoreoptiation Yes Interface type Yes Interface type Yes PROFINET ID Controller Yes / Also simultaneously with I-Device functionality PROFINET DO Controller Yes / Yes PROFINET CONDUCIDE Yes / Yes PROFINET CONDUCIDE Yes / Yes / Yes PROFINET CONDUCIDe		Yes
Transfer memory - Inputs 244 byte - Outputs 244 byte 3. Interface PROFINET isolated Yes automatic detection of transmission rate Yes automatic detection of transmission rate Yes Autorespitation Yes Autorespitation Yes Autorespitation Yes Interface types	-	
Inputs 244 byte Outputs 244 byte 244 byte 244 byte Interface type PROFINET Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s Autorcossing Yes Charge of IP address at runtime, supported Yes Interface types Yes Interface type Yes Interface type Yes Interface type Yes Interface type Yes PROFINET IO Controller Yes, Also simultaneously with I-Device functionality IPROFINET IO Controller Yes, Also simultaneously with IO Controller functionality IPROFINET IO Controller Yes IPROFINET IC Controller Yes IPROFINET IC Contholler Yes IPR		No
Outputs 244 byte 2 Interface PROFINET Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s Autoregotiation Yes Autoregotiation Yes Autoregotiation Yes Interface types Yes • RJ 45 (Ethernet) Yes • Number of ports 2 • integrated switch Yes Protocols Yes • MPI No • PROFINET ID Controller Yes, Also simultaneously with I-Device functionality • PROFINET CBA Yes • PROFINET TO Controller Yes, Also simultaneously with IO Controller functionality • PROFINET CBA Yes • PROFINET CBA Yes • PROFINET CBA Yes • PROFINET DO controller Yes, Also simultaneously with IO controller functionality • PROFINET CBA Yes • PROFINET CBA Yes • PROFINET DCA Yes • PROFINET CBA Yes • PROFINET GBA Yes • PROFINET CBA Yes • PROFINET ID Controller Yes • PROFINET ID Controller Yes • PROFINET ID Controller Yes • Media redundancy Yes<		
3. Interface PROFINET Interface type PROFINET isolated Yes automatic detection of transmission rate Yes Autocrossing Yes Autocrossing Yes Change of IP address at runtime, supported Yes Interface types Yes • RU 45 (Ethernet) Yes • Number of ports 2 • integrated switch Yes • PROFINET IO Controller Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFINET Device Yes; Via So simultaneously with IO Controller functionality • PROFIBUS DP master No • PROFIBUS DP slave No • Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP • Veb server Yes • Transmission rate, max. 100 Mbit/s Services - PG/OP communication • PS7 communication Yes • Social Yes • Social Yes • Social Yes • Social Yes • Facolide if	-	
Interface type PROFINET Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s Autoregoliation Yes Autoregoliation Yes Autoregoliation Yes Autoregoliation Yes Change of IP address at runtime, supported Yes Interface types * • RU45 (Ethernet) Yes • Number of ports 2 • integrated switch Yes; Also simultaneously with I-Device functionality • PROFINET IO Controller Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with I-Device functionality • PROFINET Device Yes; Also simultaneously with I-Device functionality • PROFINET Device Yes; Also simultaneously with I-Device functionality • PROFINET Device Yes; Also simultaneously with I-Device functionality • PROFINET Device Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • Media redundancy Yes • Proornunication Yes; • Proornunication Yes	-	244 byte
Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s Autorcossing Yes Change of IP address at runtime, supported Yes Interface types Yes • RUA (2 (Ethernet)) Yes • IN JA (2 (Ethernet)) Yes • INTERFace types 2 • integrated switch Yes Protocols Yes; Also simultaneously with I-Device functionality • PROFINET IO Controller Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with I-Device functionality • PROFINET SCAA Yes • PROFINET SCAA Yes • PROFINET IO Device Yes; Via TCP/IP, ISO on TCP, and UDP • Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • Media redundary Yes PROFINET IO Controller Yes • Transmission rate, max. 100 Mbit/s Services - PG/OP communication Yes • PROFINET IO Controller Yes; Ves 11 - Sochronous mode is possible e		DDOFINET
automatic detection of transmission rate Yes; 10/100 Mbit/s Autocrossing Yes Autocrossing Yes Charge of IP address at runtime, supported Yes Interface types Yes • RU 45 (Ethernet) Yes • Number of ports 2 • integrated switch Yes Protocols Yes, Also simultaneously with I-Device functionality • PROFINET IO Controller Yes; Also simultaneously with IO Controller functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFINET CBA Yes • PROFINET CBA Yes • PROFINET CBA Yes • PROFINET CBA Yes • PROFINET CAA Yes • PROFINET IO Controller Yes • Transmission rate, max. 100 Mbit/s Services -		
Autonegotiation Yes Autorcrossing Yes Change of IP address at runtime, supported Yes Interface types Interface types • RJ 45 (Ethernet) Yes • Number of ports 2 • Integrated switch Yes Protocols Yes, Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFIBUS DP master No • PROFIBUS DP master No • Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • Media redundancy Yes PROFIDE Ves • Transmission rate, max. 100 Mbit/s Services - - PG/OP communication Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) - Isochronous mode Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) - Shared device Yes - Numb		
Autocrossing Yes Change of IP address at runtime, supported Yes Interface types Yes • RI4 45 (Ethernet) Yes • Number of ports 2 • integrated switch Yes Protocols No • PROFINET IO Controller Yes; Also simultaneously with I-Device functionality • PROFINET to Device Yes; Also simultaneously with IO Controller functionality • PROFINET CBA Yes • PROFIBUS DP master No • Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • Media redundarcy Yes • PROFINET IO Controller Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • PROFINET IO Controller Yes • Media redundarcy Yes • PROFINET IO Controller Yes • Media redundarcy Yes • PROFINET IO Controller Yes, Via TCP/IP, ISO on TCP, and UDP • Media redundarcy Yes • PROFINET IO Controller Yes • Information Yes • PROFINET IO Controller Yes		
Charge of IP address at runtime, supported Yes Interface types RU 45 (Ethernet) RU 45 (Ethernet) Rubber of ports a integrated switch Yes Integrated switch Yes Protocols NPOFINET IO Controller PROFINET IO Device Yes; Also simultaneously with I-Device functionality PROFINET CBA Yes PROFIBUS DP master No POPROFIBUS DP slave No Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP Web server Yes PROFINET IO Controller Transmission rate, max. 100 Mbit/s Services PC/OP communication Yes; with loadable FBs, max: configurable connections: 16, max. number of intracres: 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. Of which IO devices with RT, max. Of which ID devices with RT, max. 64 of which in line, max. Set Of which ID advices Of which ID low communication A startup Of which IN IRT, max. A startup Of which IN IRT, max. A startup Of which IN IIR, max. A startup Of which IN IIRT, max. A startup Of which IN I		
Interface types • RJ 45 (Ethemet) • Number of ports • Integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Controller • PROFINET IO Controller • PROFINET IO Bevice • PROFINET CBA • PROFIBUS DP master • No • PROFIBUS DP baser • No • PROFIBUS DP slave • No • PROFINET IO Controller • Ves; Via TCP/IP, ISO on TCP, and UDP • Web server • Media redundancy Yes • Media redundancy Yes • PGOPO communication Yes • PGOPO communication Yes • PG/OP communication Yes - Soldronous mode - Soldronous mode - Isochronous mode - Shared device - Prioritized startup - Number of IO devices with prioritized startup, max. - Number of connectable IO Devices, max. - Of which IO lexives with prioritized startup, max. - Of w		
• RJ 45 (Ethernet) Yes • Number of ports 2 • Integrated switch Yes Protocols		
• Number of ports 2 • integrated switch Yes Protocols • NO • MPI No • PROFINET IO Controller Yes; Also simultaneously with I-Device functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFINET OBA Yes • PROFIBUS DP master 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 - • PROFINET IO Connous mode Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) • 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 IO devices with prioritized startup, max. 326 • Of which IO devices with IRT, max. 64 </td <td></td> <td>Yes</td>		Yes
• integrated switch Yes Protocols No • 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; • PROFINET CBA Yes; • PROFIBUS DP master No • Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • Media redundancy Yes • PROFINET IO Controller 100 Mbit/s • Transmission rate, max. 100 Mbit/s Services - • PG/OP communication Yes; • PG/OP communication Yes • Routing Yes • Routing Yes; • Sortommunication Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) • Isochronous mode Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) • Shared device Yes • Number of IO devices, max. 226 • Of which IO devices with proritized startup, max. 256 • Of which IO devices wit		
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 100 Mbit/s Services - • PG/OP communication Yes • PG/OP communication Yes • PG/OP communication Yes • PG/OP communication Yes • Routing Yes • Routing Yes • S7 communication Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 • Isochronous mode Yes; 08 1 - 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	-	
• 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 Yes • Transmission rate, max. 100 Mbit/s Services — • PG/OP communication Yes • S7 communication Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 • Isochronous mode Yes; OB 1 - 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. 22 • Num		
• PROFINET IO ControllerYes; Also simultaneously with I-Device functionality• PROFINET IO DeviceYes; Also simultaneously with IO Controller functionality• PROFINET CBAYes• PROFIBUS DP masterNo• PROFIBUS DP slaveNo• Open IE communicationYes; Via TCP/IP, ISO on TCP, and UDP• Web serverYes• Media redundancyYes• Media redundancyYes• PROFINET IO Controller100 Mbit/s• Services PRO/OP communicationYes• PROFINET IO Controller-• PROFINET IO Controller-• PROFINET IO CommunicationYes• PROFINET IO CommunicationYes• PROFINET IO CommunicationYes• PRO/OP communicationYes• PRO/OP communicationYes• PRO/OP communicationYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)- S7 communicationYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)- Shared deviceYes- Prioritized startupYes- Number of IO devices with prioritized startup, max.32- Number of IO devices with IRT, max.64- of which In line, max.64		No
• PROFINET IO DeviceYes; Also simultaneously with IO Controller functionality• PROFINET CBAYes• PROFIBUS DP masterNo• PROFIBUS DP slaveNo• Open IE communicationYes; Via TCP/IP, ISO on TCP, and UDP• Web serverYes• Media redundancyYes• Media redundancyYes• Transmission rate, max.100 Mbit/s• Services PG/OP communicationYes- PG/OP communicationYes- PG/OP communicationYes- RoutingYes- S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32- Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously))- Shared deviceYes- Number of IO devices with prioritized startup, max.22- Number of IO devices with prioritized startup, max.22- Number of IO devices with IRT, max.64- of which In line, max.64		
PROFINET CBAYesPROFIBUS DP masterNoPROFIBUS DP slaveNoOpen IE communicationYes; Via TCP/IP, ISO on TCP, and UDPWeb serverYesMedia redundancyYesPROFINET IO Controller100 Mbit/sServices-PGOP communicationYesServices PG/OP communicationYes- S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32- Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)- Shared deviceYes- Prioritized startupYes- Number of IO devices with prioritized startup, max.32- Number of IO devices with prioritized startup, max.32- Number of IO devices with IRT, max.64- of which Io line, max.64		
• PROFIBUS DP masterNo• PROFIBUS DP slaveNo• Open IE communicationYes; Via TCP/IP, ISO on TCP, and UDP• Web serverYes• Media redundancyYes• Media redundancyYes• Transmission rate, max.100 Mbit/sServices-• PRO/P communicationYes• PRO/P communicationYes• PRO/P communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32• S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32• Isochronous modeYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32• Isochronous modeYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32• Isochronous modeYes; With loadable FBs, max. configurable connections: 16, max. number of instances: 32• Isochronous modeYes; With loadable FBs, max. configurable connections: 16, max. number of instances: 32• Isochronous modeYes; With loadable FBs, max. configurable connections: 16, max. number of instances: 32• Isochronous modeYes• Shared deviceYes• Prioritized startupYes• Number of IO devices with prioritized startup, max.32• Number of IO devices with IRT, max.64• Of which IO devices with IRT, max.64		
PROFIBUS DP slaveNo• Open IE communicationYes; Via TCP/IP, ISO on TCP, and UDP• Web serverYes• Media redundancyYes• Media redundancyYesPROFINET IO Controller100 Mbit/s• Transmission rate, max.100 Mbit/sServices PG/OP communicationYes- RoutingYes- S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32- Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)- Shared deviceYes- Prioritized startupYes- Number of IO devices with prioritized startup, max.32- Number of IO devices with IRT, max.64- of which IO devices with IRT, max.64		
• Open IE communicationYes; Via TCP/IP, ISO on TCP, and UDP• Web serverYes• Media redundancyYes• PROFINET IO Controller100 Mbit/s• Transmission rate, max.100 Mbit/sServices PG/OP communicationYes- RoutingYes- S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32- Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)- Shared deviceYes- Prioritized startupYes- Number of IO devices with prioritized startup, max.32- Number of IO devices with IRT, max.64- of which In line, max.64		
Web serverYesMedia redundancyYesPROFINET IO Controller100 Mbit/sTransmission rate, max.100 Mbit/sServices PG/OP communicationYes- RoutingYes- S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32- Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)- Shared deviceYes- Prioritized startupYes- 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		
• Media redundancy Yes PROFINET IO Controller 100 Mbit/s • 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 - 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		
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 1 - 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 - Of which IO devices with IRT, max. 64 - of which in line, max. 64		
• 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	•	
PG/OP communicationYes RoutingYes S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Shared deviceYes Prioritized startupYes 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		100 Mbit/s
RoutingYes S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Shared deviceYes Prioritized startupYes 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	Services	
S7 communicationYes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32— Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)— Shared deviceYes— Prioritized startupYes— 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	— PG/OP communication	Yes
instances: 32— Isochronous modeYes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)— Shared deviceYes— Prioritized startupYes— 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	— Routing	Yes
simultaneously)- Shared deviceYes- Prioritized startupYes- 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	-	
Prioritized startupYes 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	— Isochronous mode	
- 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	— Shared device	Yes
Number of connectable IO Devices, max.256 Of which IO devices with IRT, max.64 of which in line, max.64	— Prioritized startup	Yes
— Of which IO devices with IRT, max. 64 — of which in line, max. 64	- Number of IO devices with prioritized startup, max.	32
- of which in line, max. 64	- Number of connectable IO Devices, max.	256
	— Of which IO devices with IRT, max.	64
— Number of IO Devices with IRT and the option "high 256	— of which in line, max.	64
	 — Number of IO Devices with IRT and the option "high 	256

flexibility"	
— 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 simultaneously activated/deactivated, max. 	8
 IO Devices changing during operation (partner ports), supported 	Yes
- 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 PROFlenergy standard FB for I- Device
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	2
Transfer memory	
— Inputs, max.	1 440 byte; Per IO Controller with shared device
— 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	Yes
 acyclic transmission cyclic transmission 	Yes
Open IE communication	165
Number of connections, max.	32
Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532,
	65533, 65534, 65535
 Keep-alive function, supported 	Yes
Protocols	
PROFIsafe	Yes
Redundancy mode	
Media redundancy	
— Switchover time on line break, typ.	200 ms; PROFINET MRP
— Number of stations in the ring, max.	50
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	32
— Data length for connection type 01H, max.	1 460 byte
— Data length for connection type 11H, max.	32 768 byte
ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	32 20 700 http://
— Data length, max.	32 768 byte
• UDP	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	32 1.472 byte
— Data length, max.	1 472 byte
Web server	

• supported	Yes
Supported User-defined websites	Yes
Number of HTTP clients	5
communication functions / header	5
PG/OP communication	Yes
Data record routing	Yes
Global data communication	100
• 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	Yes
• as server	Yes
• as client	Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB
• User data per job, max.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)
S5 compatible communication	
supported	Yes; via CP and loadable FC
communication functions / PROFINET CBA (with set target commu	inication load) / header
 Setpoint for the CPU communication load 	20 %
 number of remote connection partners / with PROFINET CBA 	32
 number of technological functions / with PROFINET CBA / for master or slave 	50
 number of connections / with PROFINET CBA / for master or slave / total 	3 000
 data volume / of the input variables / with PROFINET CBA / for master or slave 	24 000 byte
data volume / of the output variables / with PROFINET CBA / for master or slave	24 000 byte
number of internal and PROFIBUS interconnections / with PROFINET CBA / maximum	1 000
data volume / of internal and PROFIBUS interconnections / with PROFINET CBA / for master or slave	8 000 byte
 data volume / with PROFINET CBA / per connection / maximum 	1 400 byte
performance data / PROFINET CBA / remote interconnection /	/ with acyclic transfer / header
 update time / of the remote interconnections / in the case of acyclic transmission / with PROFINET CBA 	200 ms
 number of remote connections to input variables / in the case of acyclic transmission / with PROFINET CBA / maximum 	100
 number of remote connections to output variables / in the case of acyclic transmission / with PROFINET CBA / maximum 	100
 — data volume / as user data for remote interconnections with input variables / in the case of acyclic transmission / with PROFINET CBA 	3 200 byte
 data volume / as user data for remote interconnections with output variables / in the case of acyclic transmission / with PROFINET CBA 	3 200 byte
 — data volume / as user data for remote interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum 	1 400 byte
performance data / PROFINET CBA / per connection / maximum	/ with cyclic transfer / header
— update time / of the remote interconnections / with cyclical transfer / with PROFINET CBA	1 ms
— number of remote connections to input variables /	300

with PROFINET CBA / with cyclic transfer / maximum	
 number of remote connections to output variables / with cyclical transfer / with PROFINET CBA / maximum 	300
 data volume / as user data for remote interconnections with input variables / with cyclical transfer / with PROFINET CBA / maximum 	4 800 byte
 — data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum 	4 800 byte
 data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum 	450 byte
performance data / PROFINET CBA / HMI variables via PROF	INET / acyclic / header
 number of connectable HMI stations / for HMI variables / in the case of acyclic transmission / with PROFINET CBA 	3; 2x PN OPC/1x iMap
 update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA 	500 ms
 number of HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum 	600
 — data volume / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum 	9 600 byte
performance data / PROFINET CBA / PROFIBUS proxy function	onality / header
— product function / with PROFINET CBA / PROFIBUS proxy functionality	Yes
 number of coupled PROFIBUS devices / with PROFIBUS functionality 	32
 — data volume / with PROFIBUS proxy functionality / with PROFINET CBA / per connection / maximum 	240 byte; Slave-dependent
Number of connections	
overall	32
 usable for PG communication 	31
 reserved for PG communication 	1
 — adjustable for PG communication, min. 	1
 adjustable for PG communication, max. 	31
 usable for OP communication 	31
- reserved for OP communication	1
 — adjustable for OP communication, min. 	1
 — adjustable for OP communication, max. 	31
 usable for S7 basic communication 	30
 reserved for S7 basic communication 	0
 adjustable for S7 basic communication, min. 	0
— adjustable for S7 basic communication, max.	30
usable for S7 communication	16
 reserved for S7 communication 	0
 adjustable for S7 communication, min. 	0
— adjustable for S7 communication, max.	16
 total number of instances, max. 	32
usable for routing	X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as DP master: max. 24; X2 as DP slave (active): max. 14; X3 as PROFINET: 48 max.
S7 message functions	
Number of login stations for message functions, max.	32; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	300
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
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
 Forcing, variables Number of variables, max. 	10
	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	
• can be read out	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0°C
• max.	60 °C
configuration / header	
Configuration software	
• STEP 7	Yes; V5.5 or higher
configuration / programming / header	
Command set	see instruction list
Nesting levels	8
System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
User program protection/password protection	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	120 mm
Height	125 mm
Depth	130 mm
Weights	
	1.050 a
Weight, approx.	1 250 g

last modified:

4/1/2022 🖸