6ES7317-2FK14-0AB0

## **Data sheet**



SIMATIC S7-300 CPU317F-2 PN/DP, Central processing unit with 1.5 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information	
HW functional status	01
Firmware version	V3.2
Product function	
<ul> <li>Isochronous mode</li> </ul>	Yes; Via PROFIBUS DP or PROFINET interface
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V5.5 or higher, Distributed Safety V5.4 SP4
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
<ul> <li>Repeat rate, min.</li> </ul>	1 s
Input current	
Current consumption (rated value)	750 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	4 A
l²t	1 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	4.65 W
Memory	
Work memory	
<ul><li>integrated</li></ul>	1 536 kbyte
<ul><li>expandable</li></ul>	No
Size of retentive memory for retentive data blocks	256 kbyte
Load memory	
<ul><li>Plug-in (MMC)</li></ul>	Yes
<ul><li>Plug-in (MMC), max.</li></ul>	8 Mbyte
<ul> <li>Data management on MMC (after last programming), min.</li> </ul>	10 y
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes
CPU processing times	
for bit operations, typ.	0.025 μs

for word operations, typ.	0.03 μs
for fixed point arithmetic, typ.	0.04 μs
for floating point arithmetic, typ.	0.16 µs
CPU-blocks	
Number of blocks (total)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
Number, max.	2 048; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
<ul><li>Number, max.</li></ul>	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
<ul> <li>Number of time alarm OBs</li> </ul>	1; OB 10
<ul> <li>Number of delay alarm OBs</li> </ul>	2; OB 20, 21
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32, 33, 34, 35
<ul> <li>Number of process alarm OBs</li> </ul>	1; OB 40
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55, 56, 57
Number of isochronous mode OBs	1; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
<ul> <li>Number of startup OBs</li> </ul>	1; OB 100
<ul> <li>Number of asynchronous error OBs</li> </ul>	6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
<ul> <li>per priority class</li> </ul>	16
<ul> <li>additional within an error OB</li> </ul>	4
Counters, timers and their retentivity	
S7 counter	
Number	512
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	511
— preset	Z 0 to Z 7
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	512
Retentivity	V
*	Yes
— adjustable	
— adjustable — lower limit	0
<ul><li>— adjustable</li><li>— lower limit</li><li>— upper limit</li></ul>	511
<ul><li>— adjustable</li><li>— lower limit</li><li>— upper limit</li><li>— preset</li></ul>	
— adjustable — lower limit — upper limit — preset Time range	511 No retentivity
— adjustable — lower limit — upper limit — preset Time range — lower limit	511 No retentivity  10 ms
— adjustable — lower limit — upper limit — preset Time range — lower limit — upper limit — upper limit	511 No retentivity
— adjustable — lower limit — upper limit — preset Time range — lower limit	511 No retentivity  10 ms

• Type	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	Onlimited (infilted only by NAW capacity)
retentive data area in total	all, max. 256 KB
Flag	dii, IIIdx. 230 NB
	4.006 buto
Number, max.      Detectivity evallable.	4 096 byte Yes
Retentivity available	
Retentivity preset	MB 0 to MB 15
Number of clock memories	8
Data blocks	V
Retentivity adjustable	Yes
Retentivity preset	Yes
Local data	
per priority class, max.	32 768 byte
Address area	
I/O address area	
<ul><li>Inputs</li></ul>	8 192 byte
Outputs	8 192 byte
of which distributed	
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	
<ul><li>Inputs</li></ul>	8 192 byte
<ul> <li>Outputs</li> </ul>	8 192 byte
<ul> <li>Inputs, adjustable</li> </ul>	8 192 byte
<ul> <li>Outputs, adjustable</li> </ul>	8 192 byte
<ul> <li>Inputs, default</li> </ul>	256 byte
Outputs, default	256 byte
Subprocess images	
<ul> <li>Number of subprocess images, max.</li> </ul>	1; With PROFINET IO, the length of the user data is limited to 1600
Digital shannels	bytes
Digital channels	CE EDC
• Inputs	65 536
— of which central	1 024
• Outputs	65 536
— of which central	1 024
Analog channels	4.000
• Inputs	4 096
— of which central	256
• Outputs	4 096
— of which central	256
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
<ul><li>integrated</li></ul>	1
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
• Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
<ul> <li>Hardware clock (real-time)</li> </ul>	Yes
<ul> <li>retentive and synchronizable</li> </ul>	Yes
Backup time	6 wk; At 40 °C ambient temperature

<ul> <li>Deviation per day, max.</li> </ul>	10 s
<ul> <li>Behavior of the clock following POWER-ON</li> </ul>	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
<ul> <li>Range of values</li> </ul>	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
retentive	Yes; Must be restarted at each restart
Clock synchronization	
<ul><li>supported</li></ul>	Yes
<ul> <li>to MPI, master</li> </ul>	Yes
<ul><li>• to MPI, slave</li></ul>	Yes
<ul><li>to DP, master</li></ul>	Yes
<ul><li>to DP, slave</li></ul>	Yes
● in AS, master	Yes
• in AS, slave	Yes
on Ethernet via NTP	Yes
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	1
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	200 mA
Interface types	200 111/1
• RS 485	Yes
Protocols	1 65
MPI	Yes
PROFIBUS DP master     PROFIBUS DP clave	Yes
PROFIBUS DP slave     Point to point connection	Yes
Point-to-point connection	No
MPI	40 MI: 1/-
Transmission rate, max.	12 Mbit/s
Services	V
— PG/OP communication	Yes
— Routing	Yes
Global data communication	Yes
<ul> <li>S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	No; but via CP and loadable FB
— S7 communication, as server	Yes
PROFIBUS DP master	
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
<ul> <li>Number of DP slaves, max.</li> </ul>	124
Services	
— PG/OP communication	Yes

- Routing - Global data communication - S7 basis communication - S7 basis communication - Yes - S7 communication, as server - S7 communication, as server - Yes - Equidistance - Yes - Routinows mode - Can only be used alternatively on PROFIBUS DP or PROFINET IO - Yes - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/dosc/tvated, max - Direct data exchange (slave-to-slave communication) - DPV1 - Yes - Address area - Injuts, max - Outputs, max - Outputs - Output		
- S7 basic communication	— Routing	Yes
- S7 communication, as client - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - Isochronous mode - Isochronous mode - SYND/FREEZE - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max Direct date exchange (slave-to-slave communication) - DPV1 - DPV1 - Address area - Inputs, max - Outputs, max - Outpu	<ul> <li>Global data communication</li> </ul>	No
- \$7 communication, as client - \$7 communication, as server - Equidistance - Isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET I/O  - \$7 NOFREEZE - Achivation/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1 - Yes - Inputs, max - Uputs, max - Upu	<ul> <li>S7 basic communication</li> </ul>	Yes
- \$7 communication, as server - Equidistance - Isochtonous mode - Isochtonous 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) - DPV1 - Address area - Inputs, max Outputs, max User data per DP slave - Inputs, max Outputs, max Outputs, max User data per DP slave - Inputs, max User data per DP slave - Transmission rate, max User data per slave search - Address area, max - User data per slave search - Address area, max - User data per address area, max - Services - PG/OP communication - Routing - Global data communication - ST ossic communication - ST communication, as server - Direct data exchange (slave-to-slave communication) - Transfer memory - Inputs - User data exchange (slave-to-slave communication) - Yes - Us	— S7 communication	Yes
- Equidistance - Isacritorious mode - Isacritorious mode - Isacritorious mode - Isacritorious mode - SYNC/FREEZE - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activate/deachysted, max Direct date exchange (slave-to-slave communication) - DPV1	<ul> <li>S7 communication, as client</li> </ul>	No
	<ul> <li>S7 communication, as server</li> </ul>	Yes
	— Equidistance	Yes
		Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO
- Number of DP staves that can be simultaneously activated/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1  Address area - Inputs, max Outputs, outputs, outputs, max Outputs, outpu	— SYNC/FREEZE	
simultaneously activated/deactivated, max. — Direct data exchange (slave-to-slave communication) — DPV1 Address area — Inputs, max. — Outputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per during the deciration of the deciration	Activation/deactivation of DP slaves	Yes
simultaneously activated/deactivated, max. — Direct data exchange (slave-to-slave communication) — DPV1 Address area — Inputs, max. — Outputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per DP slave — Inputs, max. — User data per during the deciration of the deciration	Number of DP slaves that can be	
communication)  — DPV1  Address area  — Inputs, max. — Outputs, max. — Outputs — PCICIP communication — Routing — PCICIP communication — Routing — Posic communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as client — S7 communication, as server — Direct data exchange (slave-to-slave communication) — DPV1 — No  Transfer memory — Inputs — Outputs — Outputs — 244 byte — Outputs — Outputs — 244 byte — Outputs — Outputs — PROFINET — Isolated — Yes — Autocrossing — Paccineming — Procined switch — Yes — RJ 45 (Ethernet) — No — PROFINET IO Controller — PROFINED ID Presser — No		
Address area  Inputs, max Cutputs, max Cutputs, max User data per DP slave Inputs, max Cutputs, max		Yes
- Inputs, max.	— DPV1	Yes
User data per DP slave	Address area	
User data per DP slave  - Inputs, max. 244 byte  - Outputs, max. 244 byte  PROFIBUS DP slave  • Transmission rate, max. 12 Mbit/s • automatic baud rate search	— Inputs, max.	8 kbyte
Inputs, max. 244 byte Outputs, max. 244 byte Outputs, max. 244 byte Outputs, max. 244 byte Outputs, max. 244 byte Outputs Outputs Only with passive interface Outputs Outpu	— Outputs, max.	8 kbyte
Inputs, max. 244 byte Outputs, max. 244 byte Outputs, max. 244 byte Outputs, max. 244 byte Outputs, max. 244 byte Outputs Outputs Only with passive interface Outputs Outpu	User data per DP slave	
- Outputs, max.  PROFIBUS DP slave  • Transmission rate, max. • automatic baud rate search • Address area, max. • 32 • User data per address area, max.  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1  Transfer memory - Inputs - Outputs  244 byte - Outputs  244 byte  2. Interface type Isolated automatic detection of transmission rate Autonegotiation - Yes  Autororssing - Yes  Autororssing - RO Autorossing - Yes - Interface type - Interface type - Autonegotiation - Yes - Autonegotiation - Yes - Interface type - Interface type - Autonegotiation - Yes - Autonegotiation - Yes - Interface type - PROFINET (D Controller - No	•	244 byte
PROFIBUS DP slave  • Transmission rate, max. • automatic baud rate search • Address area, max. • User data per address area, max.  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 basic communication - S7 communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 - DPV1 - DPV1 - DIPUS - Linterface  244 byte - Outputs - Uutputs - Uutputs - Ves  automatic detection of transmission rate - Autocrossing - Yes - Autocrossing - ROFINET Isolated - Nunder of ports - Autocrossing - ROFINET (Stehemet) - Nunder of ports - Interface types - RJ 45 (Ethernet) - Nunder of ports - Interface with personners - Interface switch - PROFINET Io Controller - Number of ports - Interface with personners - Nunder of ports - Interface with personners - RJ 45 (Ethernet) - Number of ports - Interface with personners - Nunder of ports - Interface with personners - PROFINET Io Controller - Number of ports - Number of ports - Number of ports - PROFINET IO Controller - PROFINET IO Device - PROFINET IO Device - PROFINET IO Device - PROFINET IO Device - PROFINET Controller - PROFINET IO Device - PROFINET Controller (Yes; Also simultaneously with IO Controller functionality - PROFINET IO Device - PROFINET GD PMS (Yes) - PROFINET OD PMS (Yes		
Transmission rate, max.  automatic baud rate search Address area, max.  Address area, max.  User data per address area, max.  Services  PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1  Transfer memory Inputs Outputs  244 byte  2. Interface  Unterface type Stolated Autonegotiation Yes  Change of IP address at runtime, supported Ves Interface types  Routing  PROFINET IO Controller Ves Integrated switch Ves  No	•	
automatic baud rate search Address area, max. User data per address area, max. 32 byte  Services		12 Mbit/s
Address area, max.  User data per address area, max.  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1  Transfer memory - Inputs - Outputs - Outputs - Outputs - Ves  Interface type Interface type   PROFINET   Isolated  Autocrossing - RJ 45 (Ethernet) - RJ 45 (Ethernet) - No  PROFINET IO Controller - Index outputs Tyes - Integrated switch - PROFINET IO Controller - ROFINET Obevice - PROFINET Obevice - PROFINET Obevice - Yes; Also simultaneously with IO-Device functionality - Yes; Also simultaneously with IO-Controller functionality - Yes; Also simultaneously with IO-Controller functionality - PROFINET Obevice -	· · · · · · · · · · · · · · · · · · ·	
User data per address area, max.  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 - No  Transfer memory - Inputs - Outputs  244 byte - Outputs  244 byte  2. Interface Interface type solated - Yes automatic detection of transmission rate - Autocrossing - Yes Change of IP address at runtime, supported - Rote (Ethernet) - No  Protocols  • MPI • PROFINET IO Controller - PROFINET IO Device - PROFINET IO Controller - Yes, Also simultaneously with IO-Device functionality - Yes, Also simultaneously with IO Controller functionality - Yes, Also simultaneously with IO Controller functionality - PROFINET CBA - PROFINET CBA - PROFINET DD Pmaster		
Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs  244 byte - Outputs  244 byte  2. Interface Interface type Isolated - Autocrossing - Autocrossing - PA address at runtime, supported Interface types - RJ 45 (Ethernet) - Ne - No	•	
- PG/OP communication Yes Pooling Yes, Only with active interface - Routing Yes, Only with active interface - Global data communication No - S7 basic communication Yes - 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) - DPV1 No - DPV1 No - Inputs 244 byte - Outputs 244 byte - Outputs 244 byte  2. Interface Interface type PROFINET Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s  Autonegotiation Yes Autocrossing Yes - Change of IP address at runtime, supported Yes Interface types - RJ 45 (Ethernet) Yes - Integrated switch Yes - PROFINET IO Controller Yes; Also simultaneously with IO-Device functionality - PROFINET IO Device Yes - PROFINET CBA - PROFINET CBA - PROFINET CBA - PROFIBUS DP master		32 byte
- Routing - Global data communication No - S7 basic communication Yes - 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) - DPV1 No  Transfer memory - Inputs 244 byte - Outputs 244 byte 2. Interface Interface type PROFINET Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s  Autorossing Yes - RJ 45 (Ethernet) Yes Interface types - RJ 45 (Ethernet) Yes - Number of ports - integrated switch Yes  PROFINET IO Controller Yes; Also simultaneously with IO-Device functionality - PROFINET CBA - PROFINET CO Controller Yes - PROFINET CDA - PROFINET CDA - PROFINET IO Device - PROFINET CBA - PR		Voc
- Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - S8 communication, as server - S8 communication		
- S7 basic communication Yes  - S7 communication, as client No  - S7 communication, as client No  - S7 communication, as server Yes; Connection configured on one side only  - Direct data exchange (slave-to-slave communication) Pes  - DPV1 No No   Transfer memory - Inputs 244 byte  - Outputs 244 byte   2. Interface type PROFINET  Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s  Autonegotiation Yes  Change of IP address at runtime, supported Yes  Interface types  - RJ 45 (Ethernet) Yes  - Number of ports 2  - Number of ports 2  - Number of ports Yes  PROFINET IO Controller Yes; Also simultaneously with IO-Device functionality PROFINET CBA Yes  - PROFINEUS DP master	5	
- S7 communication		
- S7 communication, as client - S7 communication, as server - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs 244 byte 244 byte 244 byte  2. Interface Interface type Isolated automatic detection of transmission rate Autocrossing Yes Change of IP address at runtime, supported Interface types  • RJ 45 (Ethernet) • Number of ports • Number of ports • Number of ports • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master		
— Direct data exchange (slave-to-slave communication) — DPV1 No  Transfer memory — Inputs — Outputs 244 byte 2. Interface Interface type Interface types  Int		
communication)  — DPV1 No  Transfer memory  — Inputs 244 byte  — Outputs 244 byte  2. Interface  Interface type PROFINET  Isolated Yes automatic detection of transmission rate Yes; 10/100 Mbit/s  Autonegotiation Yes  Autocrossing Yes  Change of IP address at runtime, supported Yes  Interface types  • RJ 45 (Ethernet) Yes • Number of ports 2 • integrated switch Yes  Protocols  • MPI • PROFINET IO Controller Yes; Also simultaneously with IO-Device functionality • PROFINET IO Device Yes; Also simultaneously with IO Controller functionality • PROFIBUS DP master		
- DPV1 No Transfer memory - Inputs 244 byte - Outputs 244 byte  2. Interface Interface type  Autorossing Yes Change of IP address at runtime, supported Interface types  Interface types  Interface types  Interface types  Interface types  Protocols  Interface types  Protocols  Interface types  Protocols  Interface types  Inter		Yes
Transfer memory  - Inputs - Outputs 244 byte  2. Interface  Interface type Interface type Interface type Interface type  automatic detection of transmission rate  Autonegotiation Autocrossing Yes Change of IP address at runtime, supported Yes Interface types  • RJ 45 (Ethernet) • Number of ports • Number of ports • integrated switch  Protocols  • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master	•	
Inputs Outputs 244 byte  2. Interface  Interface type Interface types I		No
- Outputs  2. Interface  Interface type Isolated automatic detection of transmission rate  Autonegotiation Autocrossing Yes  Change of IP address at runtime, supported Interface types  • RJ 45 (Ethernet) • Number of ports • Integrated switch  Protocols  • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master	·	
Interface type Isolated Isolated Isolated Interface type Isolated Isolated Interface type Isolated Interface type Isolated Interface types Int	·	
Interface type Isolated  automatic detection of transmission rate  Autonegotiation  Autocrossing  Change of IP address at runtime, supported  Interface types  • RJ 45 (Ethernet) • Number of ports • integrated switch  Protocols  • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master	<u> </u>	244 byte
Isolated  automatic detection of transmission rate  Autonegotiation  Autocrossing  Change of IP address at runtime, supported  Interface types  RJ 45 (Ethernet)  Number of ports  integrated switch  Protocols  MPI  PROFINET IO Controller  PROFINET CBA  PROFIBUS DP master  Yes  Yes  10/100 Mbit/s  Yes  Yes  Yes  Yes  Yes  No  No  Yes  No  No  Yes  No  No  Yes  Autocrossing  Yes  Yes  Yes  No  No  Yes  No  Yes  No  No  Yes  Autocrossing  Yes  No  No  Occurrence  Yes  Autocrossing  Yes  No  No  Occurrence  Yes  Autocrossing  Yes  No  No  No  Occurrence  Yes  Also simultaneously with IO-Device functionality  Yes; Also simultaneously with IO Controller functionality  No  No  No  No  No  No  No  No  No  N	2. Interface	
automatic detection of transmission rate  Autonegotiation  Autocrossing  Change of IP address at runtime, supported  Interface types  RJ 45 (Ethernet)  Number of ports  integrated switch  Protocols  MPI  PROFINET IO Controller  PROFINET IO Device  PROFIBUS DP master  Yes; 10/100 Mbit/s  Yes  Yes  Yes  Yes  Yes  Yes  No  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Autocrossing  Yes  Yes  Yes  Yes  Yes  Yes  Autocrossing  Yes  Yes  Yes  Yes  Autocrossing  Yes  Yes  Yes  Protocols  No	Interface type	PROFINET
Autorossing Yes  Change of IP address at runtime, supported Yes  Interface types  RJ 45 (Ethernet) Number of ports integrated switch  Protocols  MPI PROFINET IO Controller PROFINET IO Device PROFINET CBA PROFIBUS DP master  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Y	Isolated	
Autocrossing  Change of IP address at runtime, supported  Yes  Interface types  RJ 45 (Ethernet) Number of ports integrated switch  Yes  Protocols  MPI PROFINET IO Controller PROFINET CBA PROFIBUS DP master  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Y	automatic detection of transmission rate	Yes; 10/100 Mbit/s
Change of IP address at runtime, supported  Interface types  RJ 45 (Ethernet) Number of ports integrated switch  Protocols  MPI PROFINET IO Controller PROFINET IO Device PROFINET CBA PROFIBUS DP master  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Y	Autonegotiation	Yes
Interface types  Protocols  MPI PROFINET IO Device PROFINET CBA PROFIBUS DP master  Pyes  Yes  Yes  Yes  Yes  No  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Autocrossing	Yes
<ul> <li>RJ 45 (Ethernet)</li> <li>Number of ports</li> <li>integrated switch</li> <li>Yes</li> </ul> Protocols <ul> <li>MPI</li> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>PROFINET IO Device</li> <li>Yes; Also simultaneously with IO-Device functionality</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> </ul> No <ul> <li>Yes</li> <li>Also simultaneously with IO Controller functionality</li> <li>Yes</li> <li>PROFIBUS DP master</li> </ul>	Change of IP address at runtime, supported	Yes
<ul> <li>RJ 45 (Ethernet)</li> <li>Number of ports</li> <li>integrated switch</li> <li>Yes</li> </ul> Protocols <ul> <li>MPI</li> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>PROFINET IO Device</li> <li>Yes; Also simultaneously with IO-Device functionality</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> </ul> No <ul> <li>Yes</li> <li>Also simultaneously with IO Controller functionality</li> <li>Yes</li> <li>PROFIBUS DP master</li> </ul>	Interface types	
<ul> <li>Number of ports</li> <li>integrated switch</li> <li>Yes</li> </ul> Protocols <ul> <li>MPI</li> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>PROFINET IO Device</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> </ul> 1 <ul> <li>No</li> <li>Yes</li> <li>Also simultaneously with IO Controller functionality</li> <li>Yes</li> <li>PROFIBUS DP master</li> </ul> No	• RJ 45 (Ethernet)	Yes
<ul> <li>integrated switch</li> <li>Protocols</li> <li>MPI</li> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>PROFINET IO Device</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> <li>Yes</li> <li>Yes</li> <li>No</li> </ul>	<ul> <li>Number of ports</li> </ul>	2
Protocols  • MPI  • PROFINET IO Controller  • PROFINET IO Device  • PROFINET CBA  • PROFIBUS DP master  No  No  No  Yes; Also simultaneously with IO-Device functionality  Yes; Also simultaneously with IO Controller functionality  Yes  No		Yes
<ul> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> <li>Yes; Also simultaneously with IO Controller functionality</li> <li>Yes</li> <li>No</li> </ul>		
<ul> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> <li>Yes; Also simultaneously with IO Controller functionality</li> <li>Yes</li> <li>No</li> </ul>	• MPI	No
<ul> <li>PROFINET IO Device</li> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> <li>Yes; Also simultaneously with IO Controller functionality</li> <li>Yes</li> <li>No</li> </ul>		
<ul> <li>PROFINET CBA</li> <li>PROFIBUS DP master</li> <li>No</li> </ul>		
PROFIBUS DP master     No		
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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 can only be used alternatively on PROFIBUS DP or PROFINET IO
— IRT	Yes
<ul> <li>Shared device</li> </ul>	Yes
<ul> <li>Prioritized startup</li> </ul>	Yes
<ul> <li>Number of IO devices with prioritized startup, max.</li> </ul>	32
<ul> <li>Number of connectable IO Devices, max.</li> </ul>	128
— 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"	128
— of which in line, max.	61
<ul> <li>Number of connectable IO Devices for RT, max.</li> </ul>	128
— of which in line, max.	128
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
Routing     S7 communication	
— 37 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 Fl 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
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acyclic transmission	Yes
cyclic transmission	Yes
Open IE communication	165
Number of connections, max.	16
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	
Redundancy mode	
Media redundancy	
<ul> <li>Switchover time on line break, typ.</li> </ul>	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
<ul> <li>Number of connections, max.</li> </ul>	16
<ul> <li>Data length for connection type 01H, max.</li> </ul>	1 460 byte
<ul> <li>Data length for connection type 11H, max.</li> </ul>	32 768 byte
— several passive connections per port,	Yes
supported	Voc. via integrated DBOEINET interface and leadable EBs
<ul> <li>ISO-on-TCP (RFC1006)</li> <li>— Number of connections, max.</li> </ul>	Yes; via integrated PROFINET interface and loadable FBs 16
— Data length, max.	32 768 byte
• UDP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	16
— Data length, max.	1 472 byte
Web server	V
• supported	Yes
User-defined websites	Yes
<ul> <li>Number of HTTP clients</li> </ul>	5
Communication functions	
PG/OP communication	Yes
PG/OP communication Data record routing	Yes Yes
PG/OP communication  Data record routing  Global data communication	Yes
PG/OP communication  Data record routing  Global data communication  • supported	Yes Yes
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.	Yes Yes 8
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.	Yes Yes 8 8
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.	Yes  Yes  8  8  8
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.	Yes Yes 8 8
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.	Yes  Yes  8  8  8
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.	Yes  Yes  8  8  8  8
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  S7 basic communication	Yes  Yes  8  8  8  8  22 byte
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  S7 basic communication  • supported	Yes  Yes  8  8  8  8  22 byte  22 byte
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  S7 basic communication	Yes  Yes  8  8  8  8  22 byte  22 byte
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  S7 basic communication  • supported	Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max.	Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  76 byte
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  S7 basic communication  • supported  • User data per job, max.  • User data per job (of which consistent), max.	Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or
PG/OP communication  Data record routing  Global data communication  • supported  • Number of GD loops, max.  • Number of GD packets, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  S7 basic communication  • supported  • User data per job, max.  • User data per job (of which consistent), max.	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes; via integrated PROFINET interface and loadable FB or via CP and
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  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
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • User data per job, max.	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  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
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • User data per job, max.	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • User data per job, max.  S5 compatible communication • supported	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • User data per job, max.  S5 compatible communication • supported  PROFINET CBA (at set setpoint communication load)	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  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
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • 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  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  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
PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • User data per job, max.  S5 compatible communication • supported PROFINET CBA (at set setpoint communication load) • Setpoint for the CPU communication load	Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  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  50 %  32

<ul> <li>Data length of all incoming connections master/slave, max.</li> </ul>	4 000 byte
<ul> <li>Data length of all outgoing connections master/slave, max.</li> </ul>	4 000 byte
Number of device-internal and PROFIBUS interconnections	500
<ul> <li>Data length of device-internal und PROFIBUS interconnections, max.</li> </ul>	4 000 byte
<ul> <li>Data length per connection, max.</li> </ul>	1 400 byte
Remote interconnections with acyclic transmission	·
— Sampling interval, min.	500 ms
Number of incoming interconnections	100
Number of outgoing interconnections	100
Data length of all incoming interconnections,	2 000 byte
max.	2 000 2).0
<ul> <li>Data length of all outgoing interconnections, max.</li> </ul>	2 000 byte
<ul><li>— Data length per connection, max.</li></ul>	1 400 byte
Remote interconnections with cyclic transmission	
<ul> <li>Transmission frequency: Transmission interval, min.</li> </ul>	10 ms
<ul> <li>Number of incoming interconnections</li> </ul>	200
<ul> <li>Number of outgoing interconnections</li> </ul>	200
<ul> <li>Data length of all incoming interconnections, max.</li> </ul>	2 000 byte
<ul> <li>Data length of all outgoing interconnections, max.</li> </ul>	2 000 byte
<ul> <li>Data length per connection, max.</li> </ul>	450 byte
HMI variables via PROFINET (acyclic)	
<ul> <li>Number of stations that can log on for HMI variables (PN OPC/iMap)</li> </ul>	3; 2x PN OPC/1x iMap
<ul> <li>HMI variable updating</li> </ul>	500 ms
Number of HMI variables	200
<ul><li>— Number of HMI variables</li><li>— Data length of all HMI variables, max.</li></ul>	200 2 000 byte
— Data length of all HMI variables, max.	
Data length of all HMI variables, max.  PROFIBUS proxy functionality	2 000 byte
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported	2 000 byte Yes
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices	2 000 byte  Yes 16
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.	2 000 byte  Yes 16
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections	2 000 byte  Yes 16 240 byte; Slave-dependent
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall	2 000 byte  Yes 16 240 byte; Slave-dependent
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported — Number of linked PROFIBUS devices — Data length per connection, max.  Number of connections  • overall • usable for PG communication — reserved for PG communication	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 31
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 31 31 1
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication  — adjustable for OP communication, min.	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 1 1 1 1 1
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, min.  — adjustable for OP communication, max.	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 1 1 1 1 1
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 31 31 31 31
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 31 31 0 0
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication  — adjustable for S7 basic communication, min.	2 000 byte  Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 1 0 0 0
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication  — adjustable for S7 basic communication, min.  — adjustable for S7 basic communication, min.  — adjustable for S7 basic communication, max.	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 31 0 0 0 0 30
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication  — reserved for S7 basic communication  — reserved 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	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 31 31 31 0 0 0 0 30 16
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved 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  — reserved for S7 communication	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 0 0 0 0 0 30 16 0
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication  — adjustable for S7 basic communication, min.  — adjustable for S7 basic communication, max.  • usable for S7 communication  — reserved for S7 communication  — reserved for S7 communication  — reserved for S7 communication, min.	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 31 31 31 31 30 0 0 0 0 0 0 0 0
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication  — adjustable for S7 basic communication, min.  — adjustable for S7 communication  — reserved for S7 communication  — reserved for S7 communication  — reserved for S7 communication  — adjustable for S7 communication, min.  — adjustable for S7 communication, min.	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 0 0 0 0 0 0 16
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported — Number of linked PROFIBUS devices — Data length per connection, max.  Number of connections  • overall  • usable for PG communication — reserved for PG communication — adjustable for PG communication, min. — adjustable for PG communication, max.  • usable for OP communication — reserved for OP communication — adjustable for OP communication, min. — adjustable for OP communication, max.  • usable for S7 basic communication — reserved for S7 basic communication — adjustable for S7 basic communication, min. — adjustable for S7 basic communication, max.  • usable for S7 communication — reserved for S7 communication — reserved for S7 communication — adjustable for S7 communication, min. — adjustable for S7 communication, min. — adjustable for S7 communication, max.  • total number of instances, max.	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 1 31 31 31 31 1 1 6 0 0 0
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication  — adjustable for S7 basic communication, min.  — adjustable for S7 communication  — reserved for S7 communication  — reserved for S7 communication  — adjustable for S7 communication  — adjustable for S7 communication, min.  — adjustable for S7 communication, min.  — adjustable for S7 communication, min.  — adjustable for S7 communication, max.  • total number of instances, max.	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 31 31 31 31 0 0 0 0 0 0 16 0 0 16 32
- Data length of all HMI variables, max.  PROFIBUS proxy functionality  - supported  - Number of linked PROFIBUS devices  - Data length per connection, max.  Number of connections  • overall  • usable for PG communication  - reserved for PG communication, min.  - adjustable for PG communication, max.  • usable for OP communication  - reserved for OP communication  - adjustable for OP communication  - adjustable for OP communication, min.  - adjustable for OP communication, max.  • usable for S7 basic communication  - reserved for S7 basic communication  - 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.  S7 message functions  Number of login stations for message functions, max.	2 000 byte  Yes  16  240 byte; Slave-dependent  32  31  1  1  1  31  31  31  31  1  1  1
— Data length of all HMI variables, max.  PROFIBUS proxy functionality  — supported  — Number of linked PROFIBUS devices  — Data length per connection, max.  Number of connections  • overall  • usable for PG communication  — reserved for PG communication  — adjustable for PG communication, min.  — adjustable for PG communication, max.  • usable for OP communication  — reserved for OP communication  — adjustable for OP communication, min.  — adjustable for OP communication, max.  • usable for S7 basic communication  — reserved for S7 basic communication  — adjustable for S7 basic communication, min.  — adjustable for S7 communication  — reserved for S7 communication  — reserved for S7 communication  — adjustable for S7 communication  — adjustable for S7 communication, min.  — adjustable for S7 communication, min.  — adjustable for S7 communication, min.  — adjustable for S7 communication, max.  • total number of instances, max.	Yes 16 240 byte; Slave-dependent  32 31 1 1 1 31 31 31 31 0 0 0 0 0 0 16 0 0 16 32

Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
Status/control variable	Yes
<ul> <li>Variables</li> </ul>	Inputs, outputs, memory bits, DB, times, counters
<ul> <li>Number of variables, max.</li> </ul>	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
<ul> <li>Number of entries, max.</li> </ul>	500
— adjustable	No
of which powerfail-proof	100; Only the last 100 entries are retained
Number of entries readable in RUN, max.	499
— adjustable	Yes
— preset	10
Service data	
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	100, vo.o or mignor
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
— GRAFII — HiGraph®	Yes
Know-how protection	103
User program protection/password protection	Yes
Block encryption	Yes
Dimensions	103
Width	40 mm
VVIQUI	
Height	
Height	125 mm
Depth	125 mm 130 mm
Depth Weights	130 mm
Depth	