## **SIEMENS**

## **Data sheet**

6ES7315-2FJ14-0AB0



SIMATIC S7-300 CPU315F-2 PN/DP, Central processing unit with 512 KB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

Figure similar

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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
Repeat rate, min.	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>	512 kbyte
expandable	No
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 a
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
<ul><li>without battery</li></ul>	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.05 μs
for word operations, typ.	0.09 µs
for fixed point arithmetic, typ.	0.12 μs
for floating point arithmetic, typ.	0.45 μs

PU-blocks	
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
Number, max.	1 024; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	4004 N. J. 2000
Number, max.	1 024; Number range: 0 to 7999
• Size, max.  OB	64 kbyte
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of fine alarm OBs	1; OB 10
Number of time diam OBs     Number of delay alarm OBs	2; OB 20, 21
Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35
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	
per priority class	16
<ul> <li>additional within an error OB</li> </ul>	4
ounters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes
— 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	050
Number  Patantinitar	256
Retentivity	Ves
— adjustable	Yes
— preset	No retentivity
Time range	10 ma
— lower limit	10 ms
— upper limit IEC timer	9 990 s
	Yes
<ul><li>present</li><li>Type</li></ul>	SFB
Number	Unlimited (limited only by RAM capacity)
ata areas and their retentivity	Smillinged (milited only by IV-NVI capacity)
Retentive data area (incl. timers, counters, flags), max.	128 kbyte
Flag	120 NDyto
• Size, max.	2 048 byte
Retentivity available	Yes; MB 0 to MB 2 047
Retentivity available     Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte

Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	э
I/O address area	
• Inputs	2 048 byte
<ul> <li>Outputs</li> </ul>	2 048 byte
of which distributed	,
— Inputs	2 048 byte
— Outputs	2 048 byte
Process image	
• Inputs	2 048 byte
<ul> <li>Outputs</li> </ul>	2 048 byte
<ul> <li>Inputs, adjustable</li> </ul>	2 048 byte
<ul> <li>Outputs, adjustable</li> </ul>	2 048 byte
<ul> <li>Inputs, default</li> </ul>	128 byte
Outputs, default	128 byte
Subprocess images	
Number of subprocess images, max.	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	
• Inputs	16 384
— of which central	1 024
Outputs	16 384
— of which central	1 024
Analog channels	1001
• Inputs	1 024
— of which central	256
Outputs	1 024
— of which central	256
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters  • integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	4
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
• Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
Deviation per day, max.	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup period	the clock continues at the time of day it had when power was switched off
Operating hours counter	
Number	1
Number/Number range	0
Range of values	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
• retentive	
	Yes; Must be restarted at each restart
Clock synchronization	Yes; Must be restarted at each restart
Clock synchronization  • supported	Yes; Must be restarted at each restart  Yes
•	

• 10 DP, reader • 10 DP, reader • 10 DP, statese • 10 AS, statese • 10 AS		V WW 22 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
In AS, flater   In AS, flater   On Ethermet via NTP		*
Namber of digital reputs		
• on Ethernet Va NTP    Vest, As client   Digital injusts   Digital outputs   Digita		Yes
Number of fajial inputs  Number of digital inputs  Number of analog inputs  Number of analog inputs  Number of analog outputs  Number of industrial Ethernet interfaces  Number of PROFINET interfaces  Number of R8 422 interfaces  1 Number of R8 485 interfaces  200 mA  Protocol  1 No PROFIBUS DP master  1 PROFIBUS DP master  1 PROFIBUS DP interfaces  1 PROFIBUS DP master  1 PRO		
Number of digital inquis  Number of analog inputs  Number of analog inquis  Number of analog inquis  Number of analog inquis  Number of analog inquis  Number of analog outputs  Number of analog outputs  Number of industrial Ethernet interfaces  Number of RS 485 interfaces  1 Number of RS 485 interfaces  1 Number of RS 422 interfaces  1 Interface Desire of RS 485 interfaces  1 Number of RS 422 interfaces  1 Interface Desire of RS 485 interfaces  1 Number of RS 422 interfaces  1 Interface Desire of RS 485 interfaces  1 Number of RS 422 interfaces  1 Interface Desire of RS 485 interface  1 Interface Desire of RS 485 interfaces  1 Interface Desire of RS 485 interfac	on Ethernet via NTP	Yes; As client
Digital cutotists   0	Digital inputs	
Number of digital outputs  Number of analog inputs  Number of analog outputs  Number of analog outputs  Number of analog outputs  Number of analog outputs  Number of nalog outputs  Number of nalog outputs  Number of industrial Ethemet interfaces  Number of Industrial Ethemet interfaces  1 Number of PROFINET interfaces  1 Number of RS 485 interfaces  1 Number of RS 422 interfaces  1 Interface  Interface type  In	Number of digital inputs	0
Number of analog outputs	Digital outputs	
Number of analog inputs  Analog outputs  Interfaces  Number of analog outputs  Number of analog outputs  Number of analog outputs  Number of PROFINET interfaces  Number of PROFINET interfaces  1 Number of PROFINET interfaces 1 Number of PROFINET interfaces 1 Number of PROFINET interfaces 1 Number of R\$ 422 interfaces 1 Number of R\$ 422 interfaces 1 Interface Pyce Integrated R\$ 485 interface  Interface Pyce Integrated R\$ 485 interface  1 Number of R\$ 422 interfaces  1 Number of R\$ 422 interfaces  Interface Pyce Integrated R\$ 485 interface  Interface Pyce Integrated R\$ 485 interface  1 Number of R\$ 422 interfaces  1 Number of R\$ 422 interfaces  1 No PROFIBUS Pyce Integrated R\$ 485 interface  1 No P	Number of digital outputs	0
Analog outputs Number of analog outputs Number of industrial Ethernet Interfaces Number of IRS (185)	Analog inputs	
Number of Industrial Ethernet Interfaces 1 Number of R8 488 interfaces 0 Number of R8 488 interfaces 0 Number of R8 482 interfaces 0 Number of R8 488 interface 0 Number of R8 488 inter	Number of analog inputs	0
Number of Industrial Ethernet Interfaces 1 Number of R8 488 interfaces 0 Number of R8 488 interfaces 0 Number of R8 482 interfaces 0 Number of R8 488 interface 0 Number of R8 488 inter		
Number of PROFINET interfaces		0
Number of Industrial Ethernet interfaces 1 Number of PROFINET interfaces 1 Number of PROFINET interfaces 1 Number of RS 485 interfaces 0 Number of RS 422 interfaces 0 Interface type Interface 1 Interface type Interface 2 Interface type Interface 2 Interface type Interface 2 Interface type Interface 3 Interface type Interface 4 Interface 5 Interface 5 Interface 5 Interface 6 Interface 6 Interface 6 Interface 7 Interface 8 Interface 8 Interface 9 Interface 8 Interface 9 I		
Number of PROFINET interfaces 1 Number of RS 485 interfaces 0 Number of RS 485 interfaces 0 Interface by		1
Number of RS 485 interfaces 0 Number of RS 422 interfaces 0 Interface type Interface type Isolated Yes Interface types  RS 485  RS 485  RS 485  Output current of the interface, max. 200 mA Protocols  MPI Yes  PROFIBUS DP master Yes  PROFIBUS DP slave Yes  Proint-to-point connection No MPI  Transmission rate, max. 12 Mbit/s Services  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RS 485  RS 485  PSIOP communication Yes  RS 485  RITERIACE  RS 48		
Number of RS 422 interfaces  1. Interface type  Isolated  Ves  Integrated RS 485 interface  Interface type  Isolated  Ves  RS 485  Output current of the interface, max.  Protocols  IMPI  PROFIBUS DP master  PROFIBUS DP master  PROFIBUS DP slave  Point-to-point connection  MPI  Transmission rate, max.  12 Mbit/s  Services  PGO'PC communication  Routing  Routing  Routing  Routing  Services  PS 45 communication, as client  Services  PROFIBUS DP master  Yes  PROFIBUS DP slave  Pasic communication  Yes  Routing  Yes  Services  PGO'P communication  Yes  Services  PROFIBUS DP master  It all by the communication  Yes  Services  PROFIBUS DP master  It all by the communication  Yes  PROFIBUS DP master  It all by the communication  PROFIBUS DP master  It all by the communication  No. but via CP and loadable FB  Yes  PROFIBUS DP master  It all by the communication  Profibus DP master  It all by the communication  Routing  Routing  Pes  PGO'P communication  Pes  PROFIBUS DP master  It all by the communication  No  Routing  Pes  Routing  Pes  PGO'P communication  Yes  PROFIDES DP communication  Pes  PROFIBUS DP com		
Interface type Integrated RS 485 interface Integrated RS 485 integrated RS 4		
Interface type Isolated Isolated Yes  RS 485 Output current of the interface, max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection No  MPI Transmission rate, max.  12 Mbit/s Services PROFIBUS DP slave PG/OP communication Sy communication Sy communication Sy communication Sy communication Sy communication, as server PROFIBUS DP master Transmission rate, max.  12 Mbit/s  Services PG/OP communication Yes Sy communication Yes Sy communication Sy communication Sy communication Sy communication Sy communication Sy communication, as server Yes PROFIBUS DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 12 Mbit/s Number of DP slaves, max. 12 Mbit/s No Services PG/OP communication Yes Services PG/OP communication No Services PG/OP communication Yes Services PG/OP communication No Services P		·
Isolated Interface types  RS 485 Output current of the interface, max. 200 mA  Protocois  MPI PROFIBUS DP master PROFIBUS DP master Protocois  Transmission rate, max. 12 Mbit/s  Services  PG/G/D communication Ps 7 basic communication Ps 7 communication, as server PROFIBUS DP master PROFIBUS DP master PG/G/D communication Ps 7 communication Ps 7 communication Ps 8 communication Ps 8 communication Ps 1 communication Ps 1 communication Ps 2 communication Ps 2 communication Ps 3 communication Ps 2 communication Ps 3 communication Ps 4 communic		late worked DO ANS interferen
Interface types   RS 485	· · · · · · · · · · · · · · · · · · ·	
RS 485 Output current of the interface, max. Output current of the interface, max.  Output current of the interface, max.  PROFIBUS DP master PROFIBUS DP master PROFIBUS DP slave Point-to-point connection  MPI  Transmission rate, max.  12 Mbit/s  Services  PG/OP communication Routing PROFIBUS DP master PROFIBUS DP master Routing Ro		Yes
Output current of the interface, max.  Protocols  NPI  NPI  PROFIBUS DP master  Protit-to-point connection  MPI  Transmission rate, max.  12 Mbit/s  Services  PG/OP communication  Rouling  Global data communication  ST communication, as server  Transmission rate, max.  12 Mbit/s  Services  PG/OP communication  Yes  Rouling  Global data communication  Yes  ST communication, as client  ST communication, as server  PROFIBUS DP master  Transmission rate, max.  12 Mbit/s  Services  PROFIBUS DP master  Transmission rate, max.  12 Mbit/s  Services  PG/OP communication  Yes  Services  POFOR communication  Yes  PROFIBUS DP master  Transmission rate, max.  12 Mbit/s  Number of DP slaves, max.  124  Services  PG/OP communication  Yes  Global data communication  Yes  Rouling  Global data communication  Yes  Services  PG/OP communication  Yes  PG/OP communication  Yes  Services  PG/OP communication  PG/OP communication  PG/OP co	•	
Protocols  • MPI PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection No  MPI  • Transmission rate, max.  PG/OP communication Routing Ro		
MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection No  MPI  Transmission rate, max. Services  — PG/OP communication — S7 communication — S7 communication — S7 communication, as server  PROFIBUS DP master  Transmission rate, max.  12 Mbit/s  Services  — PG/OP communication — Yes — S7 communication — Yes — S7 communication — Yes — S7 communication, as client — S7 communication, as server  PROFIBUS DP master  Transmission rate, max. 12 Mbit/s  Number of DP slaves, max. 124  Services  — PG/OP communication — Routing — Routing — Global data communication — S7 basic communication — S7 basic communication — S7 basic communication — PG/OP communication — Yes — For communication — Yes — Global data communication — Yes — S7 communication — Yes — Equidistance — Isochronous mode — Yes, OB 61; isochronous mode can only be used alternatively on PROFIBUS — PG/OP FROFINET IO — 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  Yes		200 mA
PROFIBUS DP master PROFIBUS DP slave Point-to-point connection No  MPI  Transmission rate, max.  12 Mbit/s  Services  — PG/OP communication Routing R		
PROFIBUS DP slave Point-to-point connection No  MPI  ■ Transmission rate, max. 12 Mbit/s  Services  — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server PROFIBUS DP master  ■ Transmission rate, max. 12 Mbit/s  ■ Number of DP slaves, max.  PC/OP communication — Routing — Global data communication — S7 communication — S7 communication — PC/OP communication — PC/OP communication — Routing — Global data communication — S7 communication, as server — Equidistance — Equidistance — Lisochronous mode — Yes: OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO — 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  Yes		
● Point-to-point connection  MPI  ● Transmission rate, max.  Services	<ul> <li>PROFIBUS DP master</li> </ul>	Yes
MPI         ◆ Transmission rate, max.       12 Mbit/s         Services       — PG/OP communication       Yes         — Routing       Yes         — Global data communication       Yes         — S7 basic communication       Yes         — S7 communication, as client       No; but via CP and loadable FB         — S7 communication, as server       Yes         PROFIBUS DP master       Yes         ◆ 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, as client       No         — S7 communication, as client       No         — S7 communication, as client       No         — S7 communication, as server       Yes         — Equidistance       Yes         — Isochronous mode       Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO         — SYNC/FREEZE       Yes         — Activation/deactivation of DP slaves       Yes         — Number of DP slaves that can be simultaneously activated/deactivated, max. <t< td=""><td><ul> <li>PROFIBUS DP slave</li> </ul></td><td>Yes</td></t<>	<ul> <li>PROFIBUS DP slave</li> </ul>	Yes
Transmission rate, max.  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server  PROFIBUS DP master  Transmission rate, max.  Number of DP slaves, max.  12 Mbit/s  PG/OP communication  Yes  - PG/OP communication - S7 communication - S7 basic communication - S7 communication, as client - 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) - DPV1  Yes - DPV1  Yes - Activation/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1  Yes - Activation/deactivated, max Yes; as subscriber	Point-to-point connection	No
Services  - PG/OP communication Yes - Routing Yes - Global data communication Yes - S7 basic communication Yes - S7 communication, as server  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 Yes - Routing Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication, as server - Equidistance Yes - Loudistance Yes - Loudistance Yes - Loudistance Yes - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1 - DPV1 - Yes - Activation/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1 - Yes - S7 basic communication Yes - S7 communication A No - S7 basic communication Yes; I blocks only - Yes - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1 - Yes	MPI	
	Transmission rate, max.	12 Mbit/s
- Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Yes  PROFIBUS DP master  ● Transmission rate, max. ● Number of DP slaves, max.  ■ Number of DP slaves, max.  ■ PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as client - 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) - DPV1 - PV9	Services	
- Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - S7 communication, as server  PROFIBUS DP master  • Transmission rate, max. • Number of DP slaves, max.  • Number of DP slaves, max.  • Routing - Global data communication - S7 basic communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Equidistance - 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) - DPV1  Yes	<ul><li>— PG/OP communication</li></ul>	Yes
- S7 basic 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 Yes - S7 communication, as client No - S7 communication, as server Yes - Equidistance Yes - Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO - 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  Yes	— Routing	Yes
- S7 communication	<ul> <li>Global data communication</li> </ul>	Yes
	<ul> <li>— S7 basic communication</li> </ul>	Yes
PROFIBUS DP master  ● Transmission rate, max.  ● Number of DP slaves, max.  PG/OP communication  Routing  Global data communication  S7 basic communication  S7 communication  S7 communication  S7 communication, as server  PG/OP communication  Yes  Holocks only  Yes  S8 communication  Yes  S9 communication  Yes  S7 communication, as client  S7 communication, as server  Equidistance  Isochronous mode  PS7 Communication  Yes  Yes  Activation/deactivation of DP slaves  Number of DP slaves that can be simultaneously activated/deactivated, max.  Direct data exchange (slave-to-slave communication)  PDV1  Yes	— S7 communication	Yes
PROFIBUS DP master  • Transmission rate, max. • Number of DP slaves, max.  124  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - 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) - DPV1  124  124  124  124  125  124  124  12	<ul> <li>S7 communication, as client</li> </ul>	No; but via CP and loadable FB
● Transmission rate, max.  ● 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 client No - S7 communication, as server Yes - Equidistance Yes - Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO - SYNC/FREEZE Yes - Activation/deactivation of DP slaves Yes - Number of DP slaves that can be simultaneously activated/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1  124  124  124  124  124  124  124  1	<ul> <li>S7 communication, as server</li> </ul>	Yes
● Transmission rate, max.  ● 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 client No - S7 communication, as server Yes - Equidistance Yes - Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO - SYNC/FREEZE Yes - Activation/deactivation of DP slaves Yes - Number of DP slaves that can be simultaneously activated/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1  124  124  124  124  124  124  124  1		
Number of DP slaves, max.  Services  - PG/OP communication		12 Mbit/s
Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - 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) - DPV1  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye		
- PG/OP communication - Routing - Global data communication - S7 basic communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO - 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 - Yes		
<ul> <li>Routing</li> <li>Global data communication</li> <li>S7 basic communication</li> <li>Yes; I blocks only</li> <li>S7 communication</li> <li>S7 communication, as client</li> <li>S7 communication, as server</li> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>Activation/deactivation of DP slaves</li> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>Direct data exchange (slave-to-slave communication)</li> <li>DPV1</li> <li>Yes</li> <li>No</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes; as subscriber</li> </ul>		Yes
<ul> <li>Global data communication</li> <li>S7 basic communication</li> <li>Yes; I blocks only</li> <li>Yes</li> <li>S7 communication, as client</li> <li>S7 communication, as server</li> <li>Equidistance</li> <li>Isochronous mode</li> <li>Yes</li> <li>SYNC/FREEZE</li> <li>Activation/deactivation of DP slaves</li> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>Direct data exchange (slave-to-slave communication)</li> <li>DPV1</li> <li>No</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes; as subscriber</li> </ul>		
- S7 basic communication - S7 communication - S7 communication, as client - S7 communication, as server - 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) - DPV1 - Yes - Yes; I blocks only - Yes - No - Yes - No - No - Yes - Yes; as subscriber - Yes; as subscriber	•	
- S7 communication, as client - S7 communication, as server - S7 communication, as server - Equidistance - Isochronous mode - 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) - DPV1 - S7 communication, No No Yes - Yes; as subscriber - Yes; as subscriber - Yes; as subscriber - Yes; as subscriber		
<ul> <li>S7 communication, as client</li> <li>S7 communication, as server</li> <li>Equidistance</li> <li>Isochronous mode</li> <li>Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO</li> <li>SYNC/FREEZE</li> <li>Activation/deactivation of DP slaves</li> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>Direct data exchange (slave-to-slave communication)</li> <li>DPV1</li> <li>Yes</li> </ul>		
<ul> <li>— S7 communication, as server</li> <li>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— Activation/deactivation of DP slaves</li> <li>— Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>— Direct data exchange (slave-to-slave communication)</li> <li>— DPV1</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes; as subscriber</li> <li>Yes; as subscriber</li> </ul>		
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO</li> <li>SYNC/FREEZE</li> <li>Activation/deactivation of DP slaves</li> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>Direct data exchange (slave-to-slave communication)</li> <li>DPV1</li> <li>Yes</li> <li>Yes; as subscriber</li> <li>Yes</li> </ul>		
- Isochronous mode  Yes; OB 61; isochronous 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/deactivated, max.  Direct data exchange (slave-to-slave communication)  DPV1  Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFIBUS  Yes  Yes  Yes  Yes  Yes  Yes		
DP or PROFINET IO  Yes  Activation/deactivation of DP slaves  Number of DP slaves that can be simultaneously activated/deactivated, max.  Direct data exchange (slave-to-slave communication)  DPV1  DP or PROFINET IO  Yes  Yes  Yes  Yes		
<ul> <li>— SYNC/FREEZE</li> <li>— Activation/deactivation of DP slaves</li> <li>— Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>— Direct data exchange (slave-to-slave communication)</li> <li>— DPV1</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	— isocnionous mode	
<ul> <li>Activation/deactivation of DP slaves</li> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>Direct data exchange (slave-to-slave communication)</li> <li>DPV1</li> <li>Yes</li> </ul>	— SYNC/FREEZE	
<ul> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> <li>Direct data exchange (slave-to-slave communication)</li> <li>DPV1</li> </ul> Yes; as subscriber Yes		
activated/deactivated, max.  — Direct data exchange (slave-to-slave communication)  — DPV1  Yes; as subscriber  Yes; as subscriber		
communication) — DPV1 Yes		
communication) — DPV1 Yes	— Direct data exchange (slave-to-slave	Yes; as subscriber
	communication)	
Address area	— DPV1	Yes
	Address area	

— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
<ul> <li>automatic baud rate search</li> </ul>	Yes; only with passive interface
<ul> <li>Address area, max.</li> </ul>	32
<ul> <li>User data per address area, max.</li> </ul>	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	No
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	No
<ul> <li>S7 communication, as server</li> </ul>	Yes; Connection configured on one side only
<ul> <li>Direct data exchange (slave-to-slave</li> </ul>	Yes
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	No
PROFINET IO Controller	Yes; Also simultaneously with IO-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     Web conver	Yes; Via TCP/IP, ISO on TCP, and UDP
Web server  Media redundancy	Yes; only read function
Media redundancy      DECINET IO Controller	Yes
PROFINET IO Controller	400 MLW-
Transmission rate, max.	100 Mbit/s
Services	w.
— PG/OP communication	Yes
— Routing	Yes
— S7 communication	Yes; With loadable FBs, max. configurable connections: 14, max. number of instances: 32
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS
IDT	DP or PROFINET IO
— IRT	Yes
— Shared device	Yes
— Prioritized startup	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
<ul> <li>Number of IO Devices with IRT and the option "high</li> </ul>	128

flexibility"	
— of which in line, max.	61
Number of connectable IO Devices for RT, max.	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 μs, 500 μs,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.	2 kbyte
— Outputs, max.	2 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: 14, 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
<ul> <li>Number of IO Controllers with shared device, max.</li> </ul>	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	
acyclic transmission	Yes
cyclic transmission	Yes
Open IE communication	
<ul> <li>Number of connections, max.</li> </ul>	8
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	
<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>	8
<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
<ul> <li>several passive connections per port, supported</li> </ul>	Yes
• ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
<ul><li>Number of connections, max.</li></ul>	8
— Data length, max.	32 768 byte
• UDP	
	Yes; via integrated PROFINET interface and loadable FBs
<ul> <li>Number of connections, max.</li> </ul>	Yes; via integrated PROFINET interface and loadable FBs

Web server	
supported	Yes; only read function
User-defined websites	Yes
Number of HTTP clients	5
communication functions / header	
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	
communication function / S7 basic communication	Yes
<ul> <li>User data per job, max.</li> </ul>	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
<ul> <li>Setpoint for the CPU communication load</li> </ul>	50 %
<ul> <li>Number of remote interconnection partners</li> </ul>	32
<ul> <li>Number of functions, master/slave</li> </ul>	30
Total of all master/slave connections	1 000
Data length of all incoming connections master/slave, max.	4 000 byte
Data length of all outgoing connections master/slave, max.	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
Data length per connection, max.  Parformance data / PDCFINET CRA / remate interconnection.	1 400 byte
performance data / PROFINET CBA / remote interconnection /	·
Sampling interval, min.  Number of incoming interconnections.	500 ms 100
<ul><li>— Number of incoming interconnections</li><li>— Number of outgoing interconnections</li></ul>	100
Number of originity interconnections  Data length of all incoming interconnections, max.	2 000 byte
Data length of all incoming interconnections, max.      Data length of all outgoing interconnections, max.	2 000 byte 2 000 byte
data volume / as user data for remote	1 400 byte
interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum	
performance data / PROFINET CBA / remote interconnection	/ with cyclic transfer / header
— Transmission frequency: Transmission interval, min.	10 ms
<ul> <li>number of remote connections to input variables / with PROFINET CBA / with cyclic transfer / maximum</li> </ul>	200
<ul> <li>number of remote connections to output variables / with cyclical transfer / with PROFINET CBA / maximum</li> </ul>	200
<ul> <li>data volume / as user data for remote interconnections with input variables / with cyclical transfer / with PROFINET CBA / maximum</li> </ul>	2 000 byte
<ul> <li>data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum</li> </ul>	2 000 byte
	450 byte

interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum

PROFINET CBA / per connection / maximum	
performance data / PROFINET CBA / HMI variables via PROF	FINET / acyclic / header
Number of stations that can log on for HMI variables	3; 2x PN OPC/1x iMap
(PN OPC/iMap)	-,
<ul> <li>HMI variable updating</li> </ul>	500 ms
<ul> <li>Number of HMI variables</li> </ul>	200
<ul> <li>Data length of all HMI variables, max.</li> </ul>	2 000 byte
performance data / PROFINET CBA / PROFIBUS proxy functi	onality / header
— supported	Yes
<ul> <li>Number of linked PROFIBUS devices</li> </ul>	16
<ul> <li>Data length per connection, max.</li> </ul>	240 byte; Slave-dependent
Number of connections	
overall	16
<ul> <li>usable for PG communication</li> </ul>	15
<ul> <li>reserved for PG communication</li> </ul>	1
<ul> <li>adjustable for PG communication, min.</li> </ul>	1
adjustable for PG communication, max.	15
usable for OP communication	15
— reserved for OP communication	1
adjustable for OP communication, min.	1
adjustable for OP communication, max.	15
usable for S7 basic communication, max.	14
reserved for S7 basic communication	0
adjustable for S7 basic communication, min.	0
adjustable for S7 basic communication, max.	14
usable for S7 communication	14
reserved for S7 communication	0
adjustable for S7 communication, min.	0
adjustable for S7 communication, max.	14
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.
usable for fouting	14; X2 as PROFINET: 24 max.
S7 message functions	
S7 message functions  Number of login stations for message functions, max.	16; Depending on the configured connections for PG/OP and S7 basic
	16; Depending on the configured connections for PG/OP and S7 basic
Number of login stations for message functions, max.	16; Depending on the configured connections for PG/OP and S7 basic communication
Number of login stations for message functions, max.  Process diagnostic messages	16; Depending on the configured connections for PG/OP and S7 basic communication Yes
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.	16; Depending on the configured connections for PG/OP and S7 basic communication Yes
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions Status block	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions Status block Single step Number of breakpoints	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously  Yes 4
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  • Status/control variable	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  • Status/control variable • Variables	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable Variables Number of variables, max.	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable Variables Number of variables, max. — of which status variables, max.	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable Variables  Number of variables, max. — of which status variables, max. — of which control variables, max.	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  • Status/control  • Status/control variable • Variables • Number of variables, max.  — of which status variables, max.  — of which control variables, max.  Forcing	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions Status block Single step Number of breakpoints Status/control  Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints  Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  — of which status variables, max.  — of which control variables, max.  Forcing  Forcing  Forcing, variables	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints  Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables  Number of variables, max.	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  — of which status variables, max.  — of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs, outputs
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present	16; Depending on the configured connections for PG/OP and S7 basic communication Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints  Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  adjustable	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10  Yes S00
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step  Number of breakpoints  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  adjustable  of which powerfail-proof	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10  Yes 500 No
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  adjustable  of which powerfail-proof  Number of entries readable in RUN, max.	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10  Yes 10  Yes 10  Yes 100 499
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  adjustable  of which powerfail-proof  Number of entries readable in RUN, max.  adjustable	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10  Yes 500 No 100 499 Yes
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  adjustable  of which powerfail-proof  Number of entries readable in RUN, max.  adjustable  preset	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10  Yes 10  Yes 10  Yes 100 499
Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Test commissioning functions  Status block Single step Number of breakpoints Status/control  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  adjustable  of which powerfail-proof  Number of entries readable in RUN, max.  adjustable	16; Depending on the configured connections for PG/OP and S7 basic communication  Yes 300  Yes; Up to 2 simultaneously Yes 4  Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14  Yes Inputs, outputs 10  Yes 500 No 100 499 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	
<ul> <li>Command set</li> </ul>	see instruction list
<ul> <li>Nesting levels</li> </ul>	8
<ul> <li>System functions (SFC)</li> </ul>	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	
<ul> <li>User program protection/password protection</li> </ul>	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	340 g

last modified:

9/6/2023