## Data sheet 6ES7317-2FK14-0AB0



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	
Product type designation	CPU 317F-2 PN/DP
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 A²·s
Power loss	
Power loss, typ.	4.65 W
Memory	
Work memory	
• integrated	1 536 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.	0.025 µs
for word operations, typ.	0.03 µs
for fixed point arithmetic, typ.	0.04 μs
for floating point arithmetic, typ.	0.16 µs

PU-blocks	
Number of blocks (total)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be
DR	reduced by the MMC used.
Number, max.	2 048; Number range: 1 to 16000
<ul><li>Number, max.</li><li>Size, max.</li></ul>	64 kbyte
• Size, max.	64 kbyte
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	<b>,</b>
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
OB Control of the con	
• 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
Number of DPV1 alarm OBs	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)
Number of startup OBs	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
additional within an error OB	4
ounters, timers and their retentivity	
S7 counter	
• Number	512
Retentivity	V.
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	N/
— adjustable	Yes
— lower limit	0
— upper limit	999
EC counter	Voc
• present	Yes
• Type	SFB
Number  7.4 times	Unlimited (limited only by RAM capacity)
77 times	512
Number  Patentivity	012
Retentivity	Vec
— adjustable	Yes No retentivity
— preset	No retentivity
Time range  — lower limit	10 ms
— lower limit — upper limit	9 990 s
— upper illrilit EC timer	0.000 3
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
ata areas and their retentivity	Character (anniced only by IV-IVI capacity)
Retentive data area (incl. timers, counters, flags), max.	256 khyta
	256 kbyte
Flag	4.006 byto
Flag  ● Size, max.	4 096 byte
Flag	4 096 byte Yes; From MB 0 to MB 4 095 MB 0 to MB 15

Data blocks	
Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	103
• per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	oz roo byte, max. zono bytes per blook
I/O address area	
• Inputs	8 192 byte
Outputs	8 192 byte
of which distributed	0 192 byte
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	6 192 byte
• Inputs	8 192 byte
•	8 192 byte
Outputs     Inputs, adjustable	8 192 byte
	•
<ul><li>Outputs, adjustable</li><li>Inputs, default</li></ul>	8 192 byte 256 byte
Outputs, default     Subprocess images	256 byte
· · ·	1: With DDOFINET IO, the length of the uper data is limited to 1600 butes
Number of subprocess images, max.  Digital channels	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
	65 526
Inputs     — of which central	65 536 1 024
	65 536
Outputs     — of which central	1 024
	1 024
Analog channels	4 096
• Inputs	256
— of which central	4 096
Outputs     — of which central	256
Hardware configuration	200
	2
Number of expansion units, max.	3
Number of DP masters	4
• integrated	1
via CP     Number of operable FMs and CPs (recommended)	4
Number of operable rivis and CES (recommended)	
	0
• FM	8
<ul><li>► FM</li><li>◆ CP, PtP</li></ul>	8
<ul><li>FM</li><li>CP, PtP</li><li>CP, LAN</li></ul>	
● FM ● CP, PtP ● CP, LAN Rack	8 10
● FM  ● CP, PtP  ● CP, LAN  Rack  ● Racks, max.	8 10 4
<ul> <li>FM</li> <li>CP, PtP</li> <li>CP, LAN</li> <li>Rack</li> <li>Racks, max.</li> <li>Modules per rack, max.</li> </ul>	8 10
FM CP, PtP CP, LAN Rack Racks, max. Modules per rack, max. Time of day	8 10 4
FM CP, PtP CP, LAN Rack Racks, max. Modules per rack, max. Time of day Clock	8 10 4 8
FM CP, PtP CP, LAN Rack Rack Racks, max. Modules per rack, max. Time of day Clock Hardware clock (real-time)	8 10 4 8 Yes
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable	8 10 4 8 Yes Yes
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time	8 10  4 8  Yes Yes Yes Yes 6 wk; At 40 °C ambient temperature
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max.	8 10  4 8  Yes Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON	8 10  4 8  Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max. Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period	8 10  4 8  Yes Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max. Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter	8 10  4 8  Yes Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max. Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter Number	8 10  4 8  Yes Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4
FM CP, PtP CP, LAN  Rack Rack, max. Modules per rack, max. Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter Number Number/Number range	8 10  4 8  Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4 0 to 3
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter Number Number/Number range Range of values	8 10  4 8  Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4 0 to 3 0 to 2^31 hours (when using SFC 101)
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter Number Number Range of values Granularity	Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4 0 to 3 0 to 2^31 hours (when using SFC 101) 1 h
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter  Number Number Range of values Granularity retentive	8 10  4 8  Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4 0 to 3 0 to 2^31 hours (when using SFC 101)
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max. Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter Number Number Range of values Granularity retentive  Clock synchronization	Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4 0 to 3 0 to 2^31 hours (when using SFC 101) 1 h Yes; Must be restarted at each restart
FM CP, PtP CP, LAN  Rack Racks, max. Modules per rack, max.  Modules per rack, max.  Time of day  Clock Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period  Operating hours counter  Number Number Range of values Granularity retentive	Yes Yes 6 wk; At 40 °C ambient temperature 10 s; Typ.: 2 s Clock continues running after POWER OFF the clock continues at the time of day it had when power was switched off  4 0 to 3 0 to 2^31 hours (when using SFC 101) 1 h

MD1 1 1	
• on MPI, device	Yes
• to DP, master	Yes; With DP slave only slave clock
• on DP, device	Yes
● in AS, master	Yes
• in AS, device	Yes
on Ethernet via NTP	Yes; As client
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Interfaces	
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
Interface types	
• RS 485	Yes
Output current of the interface, max.	200 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
Point-to-point connection	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
— S7 communication, as client	No; but via CP and loadable FB
— S7 communication, as server	Yes
PROFIBUS DP master	
Transmission rate, max.	12 Mbit/s
max. number of DP devices	124
Services	
— PG/OP communication	Yes
— Routing	Yes
Global data communication	No
S7 basic communication	Yes; I blocks only
— S7 communication	Yes
— S7 communication, as client	No
— S7 communication, as server	Yes
— Equidistance	Yes
Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS
issumstitud mode	DP or PROFINET IO
— SYNC/FREEZE	Yes
<ul> <li>activation/deactivation of DP devices</li> </ul>	Yes
<ul> <li>max. number of DP devices that can be activated/deactivated at the same time</li> </ul>	8
<ul> <li>Direct data exchange (slave-to-slave communication)</li> </ul>	Yes; as subscriber
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
·	

Interface type Isolated Isolated Isolated Isolated Autonegotiation Yes  Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Yes  Interface types		
	User data per DP device	
### Transmission rate, max. ### automatic baud rate search ###	— Inputs, max.	244 byte
Transmission rate, max	— Outputs, max.	244 byte
automatic bauf rate search Address area, max. Address area, max.  Services  PROJOP communication Routing Clicibed data communication So St basic co	1st interface / PROFIBUS DP device / header	
Address area, max.  User data per address area, max.  Services  PROOP communication  Routing  Clobal data communication  ST books communication  ST conformation on No  ST communication, as client  No  PROFINET  Institute  Institute  St communication  Yes  Institute  Yes  Yes  Institute	<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
Services Services  - PGOP communication Routing Global data communication No S7 basic communication No S7 basic communication No S7 basic communication No S7 basic communication No S7 communication, as client No S8 communication, as client No S8 communication, as client No S9 communication No No S9 communication No S	<ul> <li>automatic baud rate search</li> </ul>	Yes; only with passive interface
Sentices  - PGIOP communication - Routing - Global data communication - ST basic communication - ST basic communication - ST communication - ST communication, as client - ST communication, as server - ST communication, as server - Direct data exchange (slave-to-slave communication) - ST communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 - Inputs - DPV1 - Inputs - Uniterface byte - Outputs - Uniterface byte - Outputs - Ves -	<ul> <li>Address area, max.</li> </ul>	32
PGIOP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S8 communication, as client S8 communication, as client S9 communication, as server S9 communication, as server S9 communication, as server S9 communication, as server S9 communication	<ul> <li>User data per address area, max.</li> </ul>	32 byte
- Routing - Global data communication No No - S7 basic communication No - S7 basic communication No - S7 basic communication S7 communication, as client No - S7 communication, as client No - S7 communication, as client No - S7 communication, as server Yes; Connection configured on one side only - Communication, as server Personal Poly No - DPV1	Services	
Global data communication	— PG/OP communication	Yes
- S7 basic communication - S7 communication, as client - S7 communication, as client - No - S7 communication, as client - No - S7 communication, as server - Direct data exchange (slave-b-slave communication) - DPV1 No - No - Transfer memory - Inputs - 244 byte - 244 byte - 244 byte - 245 b	— Routing	Yes; Only with active interface
— \$7 communication   Yes	<ul> <li>Global data communication</li> </ul>	No
- S7 communication, as client - S7 communication, as server - Direct date exchange (slave-to-slave communication) - DPV1 - No  Transfer memory - Inputs - Outputs - Ou	<ul> <li>S7 basic communication</li> </ul>	No
- S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No - DPV1 No - Transfer memory - Inputs 244 byte - Outputs 244 byte - Outputs - Inputs - Outputs - Ves - Interface byee - PROFINET - Isolated - Autonegotiation Yes - Autonatic detection of transmission rate - Autonatic detection of transmission rate - Routputs - Ves - Autonatic detection of transmission rate - Routputs - Ves - Autonatic detection of transmission rate - Routputs - Ves - Autonatic detection of transmission rate - Routputs - Ves - Autonatic detection of transmission rate - Routputs - Ves - Autonatic detection of transmission rate - Routputs - Ves - Routputs - Ves - Routputs - Routpu	— S7 communication	Yes
— Direct data exchange (slave-to-slave communication) — DPV1 No  Transfer memory — Inputs 244 byte 244 byte 242	<ul> <li>— S7 communication, as client</li> </ul>	No
communication)  - DPV1 No  Transfer memory  - Inputs 244 byte - Outputs 244 byte - Outputs 244 byte - Outputs 244 byte - Outputs 244 byte  - Unitarizec  Interface byce Interface byce Isolated Yes - Autonegotation Yes - Autonegotation Yes - Autonegotation Yes - Autonegotation Yes - Reference of transmission rate Yes - Media redundancy Y	<ul> <li>S7 communication, as server</li> </ul>	Yes; Connection configured on one side only
Transfer memory	<ul> <li>Direct data exchange (slave-to-slave</li> </ul>	Yes
Transfer memory  Inputs Outputs 244 byte Outputs 244 byte 240 byte 241 byte 241 byte 241 byte 241 byte 241 byte 241 byte 242 byte 242 byte 242 byte 242 byte 244 byte 245 byte 25 localist 26 localist 26 localist 26 localist 27 localist 28 localist 28 localist 29 localist 24 byte 24	communication)	
- Inputs	— DPV1	No
Dutylus   2. Interface   PROFINET     Isolated   Yes	Transfer memory	
Interface type	•	244 byte
Interface type Isolated Isolated Isolated Isolated Autonegotiation Yes  Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Autonegotiation Yes  Interface types	— Outputs	244 byte
Isolated 4 Yes automatic detection of transmission rate 4 Yes; 10/100 Mbit/s  Autocrossing 7 Yes  Autocrossing 7 Yes  Change of IP address at runtime, supported 7 Yes  Interface types 8  R. R. L. S. (Ethernet) 7 Yes  Number of ports 2 2  Integrated switch 7 Yes, Also simultaneously with IO-Device functionality 7 Yes, Also simultaneously with IO-Device functionality 7 Yes, Also simultaneously with IO-Device functionality 8 Yes  PROFINET IO Controller 7 Yes, Also simultaneously with IO-Device functionality 8 Yes  PROFINET BA 7 Yes  PROFINET BA 7 Yes  PROFIBUS DP master 8 No  PROFIBUS DP master 8 No  PROFIBUS DP device 9 No  Open IE communication 9 Yes; Via TCP/IP, ISO on TCP, and UDP  Web server 9 Yes  Media redundancy 9 Yes  PROFINET IO Controller  Transmission rate, max. 100 Mbit/s  Services 9  PROFINET IO Controller 9  PROFINET IO Controller 9  **Services 1 Yes  PROFINET OF TO TROLLER 1 Yes  A Media redundancy 9 Yes  **PROFINET OF TO TROLLER 1 Yes  **Services 1 Yes  PROFINET OF TO TROLLER 1 Yes  PROFINET IO TROLLER 1 Yes  Number of IO devices with prioritized startup, max. 128  Of which in line, max. 128  Of which in line, max. 128  Number of IO Devices with IRT and the option "high flexibility" 128	2. Interface	
automatic detection of transmission rate Autoregolation Autoregola	Interface type	PROFINET
Autonegotiation Yes Autorossing Yes Change of IP address at runtime, supported Yes Interface types  • RJ 45 (Ethernet) Yes • Number of ports 2 • Integrated switch Yes  • PROFINET IO Controller Yes; Also simultaneously with IO-Device functionality Yes • PROFINET IO BAY Yes • PROFIBUS DP master No PROFIBUS DP device No • PROFIBUS DP device No • Mel Yes; Also simultaneously with IO Controller functionality Yes • PROFIBUS DP master No • PROFIBUS DP master No • PROFIBUS DP master No • PROFIBUS DP device No • Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP • Web server Yes • Media redundancy Yes • Media redundancy Yes  PROFINET IO Controller • Transmission rate, max. 100 Mbit/s  Services  - PG/OP 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 OP PROFINET IO  PPO PROFINET IO - Shared device Yes - Prioritized startup Yes - Number of IO devices with prioritized startup, max. 32 - Number of connectable IO Devices, max. 128 - Of which In line, max Of which In line, max Of which In line, max Number of IO Devices with IRT and the option "high flexibility" 128	Isolated	Yes
Autocrossing Yes Change of IP address at runtime, supported Yes Interface types  R. I. 45 (Ethernet) Yes  Integrated switch Yes  MPI  PROFINET IO Controller Yes; Also simultaneously with IO-Device functionality  PROFINET IO Device Yes; Also simultaneously with IO Controller functionality  PROFINET IO Device Yes; Also simultaneously with IO Controller functionality  PROFINET BAA Yes  PROFIBUS DP master  PROFIBUS DP device No  PROFIBUS DP device No  Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP  Web server  Media redundancy Yes  PROFINET IO Controller  Transmission rate, max. 100 Mbit/s  Services  PG/OP communication Yes  FROFIDE IO Controller  Services  PG/OP communication Yes  Tes Sommunication Yes  PROFINET IO Controller  IT IN Yes  Services  PG/OP Communication Yes  PROFINET IO Controller  Yes Sommunication Yes  PROFINET IO Yes  Sommunication Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32  In IRT  Shared device Yes  Prioritized startup  Number of IO devices with prioritized startup, max. 22  Number of connectable IO Devices, max. 128  Of which In line, max. 44  PNumber of IO Devices with IRT, max. 64  Number of IO Devices with IRT and the option "high flexibility"	automatic detection of transmission rate	Yes; 10/100 Mbit/s
Change of IP address at runtime, supported  Interface types  • RJ 45 (Elhemet) • Number of ports • integrated switch  Protocols  • MPI • PROFINET IO Controller • PROFINET IO Device • PROFIBUS DP master • PROFIBUS DP device • Open IE communication • Media redundancy • PROFINET IO Controller • PROFINET IO Controller • PROFINET OCONTOLICE • PROFINET OCONTOLICE • PROFINET OCONTOLICE • PROFIBUS DP master • PROFIBUS DP device • No • Open IE communication • Yes; Via TCP/IP, ISO on TCP, and UDP • Web server • Media redundancy • Yes • Media redundancy • Yes • PROFINET IO Controller • Transmission rate, max.  Services  - PG/OP communication • Yes - PG/OP communication • Yes - PROUTINET IO Controller • Transmission rate max.  Services  - PG/OP communication • Yes - PROFIDED OP OP PROFINET IO - Shared device • Yes; With loadable FBs, max. configurable connections: 16, max. number of instances: 32	Autonegotiation	Yes
Interface types  RJ 45 (Ethernet) Number of ports Number of ports Number of ports Nest integrated switch PROFINET IO Controller PROFINET IO Device PROFINET IO Device PROFINET CBA PROFIBUS DP master PROFIBUS DP master No PROFIBUS DP device Nest integrated switch PROFIBUS DP device PROFIBUS DP device No PROFIBUS DP device No PROFIBUS DP device No PROFIBUS DP device PROFIBUS DP device No PROFIDET IO Controller  **Yes **Web server**  **Yes **Media redundancy *	Autocrossing	Yes
RV 45 (Ethernet) Number of ports Integrated switch Protocols  MPI PROFINET IO Controller PROFINET IO Device PROFINET GBA PROFIBUS DP master PROFIBUS DP device PROFIBUS DP device Open IE communication Web server Media redundancy PROFINET IO Controller Transmission rate, max.  PROFINET IO Controller PROFINET IO Controller  PROFINET OS A PROFINET Web server Media redundancy Pres Media redundancy PROFINET IO Controller  PROFINET IO Contr	Change of IP address at runtime, supported	Yes
integrated switch  Protocols  MPI PROFINET IO Controller PROFINET IO Device PROFINET IO Device PROFIBUS DP master PROFIBUS DP device Open IE communication Web server Media redundancy PROFINET IO Controller Transmission rate, max.  PROFINET IO Controller PROFINET IO Controller  Transmission rate, max.  PROFINET IO Services PROFIDUS PROFINET IO Red Transmission rate, max.  PROFINET IO Controller  I Transmission rate, max.  PROFINET IO Controller  PROFINET IO Controller  I Transmission rate, max.  PROFINET IO Controller  PROFINET IO Controller  I Transmission rate, max.  PROFINET IO Controller  PROFINE	Interface types	
e integrated switch  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 device No  PROFIBUS DP device No  Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP  Web server Yes  Media redundancy Yes  PROFINET IO Controller  ■ Transmission rate, max 100 Mbit/s  Services  — PG/OP communication Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32  — Isochronous mode Yes; With loadable FBs, max. configurable connections: 16, max. number of instances: 32  — Isochronous mode Yes; Os 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO  Por PROFINET IO  Prioritized startup Yes  — Prioritized startup Yes  — Number of IO devices with prioritized startup, max. 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 fexibility" 128	RJ 45 (Ethernet)	Yes
Protocols  MPI PROFINET IO Controller PROFINET GBA PROFIBUS DP master PROFIBUS DP device Open IE communication Web server Media redundancy PROFINET IO Controller Transmission rate, max.  PROFIONE PROFOP communication PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFINET IO Controller  Transmission rate, max.  100 Mbit/s  Services PROFINET PG/OP communication Yes PROFINET PG/OP communication PG/OP communication Yes PROFINET PG/OP communication PG/OP commun	Number of ports	2
Protocols  MPI PROFINET IO Controller PROFINET GBA PROFIBUS DP master PROFIBUS DP device Open IE communication Web server Media redundancy PROFINET IO Controller Transmission rate, max.  PROFIONE PROFOP communication PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFIDUS PROFINET IO Controller  Transmission rate, max.  100 Mbit/s  Services PROFINET PG/OP communication Yes PROFINET PG/OP communication PG/OP communication Yes PROFINET PG/OP communication PG/OP commun	integrated switch	Yes
PROFINET IO Controller PROFINET CBA PROFIBUS DP master PROFIBUS DP master PROFIBUS DP device PROFINET IO Controller  PROFINET IO Controller  PROFINET IO Controller  PROFINET IO Controller  PROFINE DE COMMUNICATION PROFIDE D		
PROFINET IO Device PROFIBUS DP master PROFIBUS DP master PROFIBUS DP device Open IE communication Web server Media redundancy PROFINET IO Controller Transmission rate, max.  Services  PROFOP communication Yes PROFINET IO Controller  PG/OP communication Yes Yes PROFINET IO Controller  PG/OP communication Yes Yes PROFINET IO Yes PROFINET IO Yes Profinitized startup Yes Number of IO devices with prioritized startup, max. Profinitized startup Number of IO devices with IRT, max. Of which Io devices with IRT, max. Of which In line, max. Number of IO Devices with IRT and the option "high flexibility"  Pass Also simultaneously with IR Occurrence in the control of the con	• MPI	No
PROFINET IO Device PROFIBUS DP master PROFIBUS DP master PROFIBUS DP device Open IE communication Web server Media redundancy PROFINET IO Controller Transmission rate, max.  Services  PROFOP communication Yes PROFINET IO Controller  PG/OP communication Yes Yes PROFINET IO Controller  PG/OP communication Yes Yes PROFINET IO Yes PROFINET IO Yes Profinitized startup Yes Number of IO devices with prioritized startup, max. Profinitized startup Number of IO devices with IRT, max. Of which Io devices with IRT, max. Of which In line, max. Number of IO Devices with IRT and the option "high flexibility"  Pass Also simultaneously with IR Occurrence in the control of the con	PROFINET IO Controller	Yes; Also simultaneously with IO-Device functionality
PROFIBUS DP master PROFIBUS DP device PROFIBUS DP device No Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP Web server Media redundancy Yes PROFINET IO Controller  Transmission rate, max. 100 Mbit/s  Services  PG/OP communication Yes Routing Sr 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 Yes Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Of which In line, max.  Number of IO Devices with IRT, max. Hard and the option "high flexibility"  128		
PROFIBUS DP master PROFIBUS DP device No Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP Web server Media redundancy Yes Transmission rate, max. 100 Mbit/s  Services  PG/OP communication Yes Routing Servicus  PG/OP 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 Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Of which IO devices with IRT, max. Of which Io line, max. Number of IO Devices with IRT and the option "high flexibility"  128		
<ul> <li>PROFIBUS DP device</li> <li>Open IE communication</li> <li>Yes; Via TCP/IP, ISO on TCP, and UDP</li> <li>Web server</li> <li>Media redundancy</li> <li>Yes</li> <li>Media redundancy</li> <li>Transmission rate, max.</li> <li>100 Mbit/s</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32</li> <li>— Isochronous mode</li> <li>— IRT</li> <li>— Shared device</li> <li>— Prioritized startup</li> <li>— Number of IO devices with prioritized startup, max.</li> <li>— Number of connectable IO Devices, max.</li> <li>— Of which In line, max.</li> <li>— Number of IO Devices with IRT, max.</li> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> </ul>		
Open IE communication     ∀es; Via TCP/IP, ISO on TCP, and UDP     ∀es     Media redundancy     Yes  PROFINET IO Controller      Transmission rate, max.     100 Mbit/s  Services      — PG/OP communication     — Routing     — S7 communication     — S7 communication     — IRT     — IRT     — Shared device     — Prioritized startup     — Number of IO devices with IRT, max.     — Of which IO devices with IRT and the option "high flexibility"     128     — Number of IO Devices with IRT and the option "high flexibility"     100 Mbit/s     100 Mbit/s     100 Mbit/s     300 Mbit/s     3		
Web server  Media redundancy  PROFINET IO Controller  Transmission rate, max.  100 Mbit/s  Services  PG/OP communication  Routing  Sommunication  Yes, with loadable FBs, max. configurable connections: 16, max. number of instances: 32  Isochronous mode  Pischronous mode  Prioritized startup  Number of IO devices with prioritized startup, max.  Of which IO devices with IRT and the option "high flexibility"  Nes  100 Mbit/s  100 Mbit/s  Yes  Yes  Yes  Yes, with loadable FBs, max. configurable connections: 16, max. number of instances: 32  Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO  Yes  Yes  Yes  Number of IO devices with prioritized startup, max.  64  Number of IO Devices with IRT and the option "high flexibility"		
Media redundancy PROFINET IO Controller      Transmission rate, max.     100 Mbit/s  Services      — PG/OP communication     — Routing     — S7 communication     — Isochronous mode      — IRT     — Shared device     — Prioritized startup     — Number of IO devices with IRT, max.     — Of which In line, max.     — Number of IO Devices with IRT and the option "high flexibility"      **Media redundancy     Yes     100 Mbit/s  110 Mbit/s  128  110 Mbit/s  128  128  128  128	•	
PROFINET IO Controller		
● Transmission rate, max.  Services	·	, 00
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 - Shared device Yes - Prioritized startup Yes - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Of which IO devices with IRT, max of which in line, max Number of IO Devices with IRT and the option "high flexibility" - Yes - Number of IO Devices with IRT and the option "high flexibility"		100 Mhit/s
- PG/OP communication - Routing - S7 communication - S7 communication - S7 communication - Isochronous mode - Isochronous mode - Isochronous mode - IRT - Shared device - Prioritized startup - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Of which IO devices with IRT, max Number of IO Devices with IRT and the option "high flexibility" - Yes - Number of IO Devices with IRT and the option "high flexibility" - Yes - Number of IO Devices with IRT and the option "high flexibility" - Yes - Number of IO Devices with IRT and the option "high flexibility" - Yes - Number of IO Devices with IRT and the option "high flexibility" - Yes - Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 - Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO  Yes - Yes - Yes - Yes - Yes - Number of IO devices with prioritized startup, max 64 - 64 - 128		TOO INDICO
- Routing - 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 Yes - Shared device - Prioritized startup - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Of which IO devices with IRT, max of which in line, max Number of IO Devices with IRT and the option "high flexibility" 128		Von
- 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  Yes  Shared device  Prioritized startup  Number of IO devices with prioritized startup, max.  Number of connectable IO Devices, max.  Of which IO devices with IRT, max.  of which in line, max.  Number of IO Devices with IRT and the option "high flexibility"  128		
instances: 32 Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO  IRT Yes Shared device Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Of which IO devices with IRT, max.  Of which in line, max.  Number of IO Devices with IRT and the option "high flexibility"  instances: 32 Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO  Yes  128  44  45  46  44  46  46  46  46  47  48  48  49  40  40  40  40  40  40  40  40  40	•	
DP or PROFINET IO  Yes  Shared device Prioritized startup Number of IO devices with prioritized startup, max.  Number of connectable IO Devices, max. Of which IO devices with IRT, max.  of which in line, max.  Number of IO Devices with IRT and the option "high flexibility"  DP or PROFINET IO  Yes  128  44  44  44  44  45  46  46  46  46  46		instances: 32
<ul> <li>— Shared device</li> <li>— Prioritized startup</li> <li>— Number of IO devices with prioritized startup, max.</li> <li>— Number of connectable IO Devices, max.</li> <li>— Of which IO devices with IRT, max.</li> <li>— of which in line, max.</li> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> <li>128</li> </ul>		DP or PROFINET IO
<ul> <li>— Prioritized startup</li> <li>— Number of IO devices with prioritized startup, max.</li> <li>— Number of connectable IO Devices, max.</li> <li>— Of which IO devices with IRT, max.</li> <li>— of which in line, max.</li> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> <li>Yes</li> <li>32</li> <li>— 64</li> <li>— 64</li> <li>— 128</li> <li>— 128</li></ul>		
<ul> <li>Number of IO devices with prioritized startup, max.</li> <li>Number of connectable IO Devices, max.</li> <li>Of which IO devices with IRT, max.</li> <li>of which in line, max.</li> <li>Number of IO Devices with IRT and the option "high flexibility"</li> </ul>		
<ul> <li>Number of connectable IO Devices, max.</li> <li>Of which IO devices with IRT, max.</li> <li>of which in line, max.</li> <li>Number of IO Devices with IRT and the option "high flexibility"</li> <li>128</li> <li>128</li> </ul>	·	
<ul> <li>Of which IO devices with IRT, max.</li> <li>of which in line, max.</li> <li>Number of IO Devices with IRT and the option "high flexibility"</li> <li>128</li> </ul>	<ul> <li>Number of IO devices with prioritized startup, max.</li> </ul>	32
<ul> <li>— of which in line, max.</li> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> <li>64</li> <li>128</li> </ul>	<ul> <li>Number of connectable IO Devices, max.</li> </ul>	128
— Number of IO Devices with IRT and the option "high flexibility"	<ul> <li>Of which IO devices with IRT, max.</li> </ul>	64
flexibility"	— of which in line, max.	64
— of which in line, max.	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
<ul> <li>Activation/deactivation of IO Devices</li> </ul>	Yes
<ul> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8
<ul> <li>— IO Devices changing during operation (partner ports), supported</li> </ul>	Yes
<ul> <li>Number of IO Devices per tool, max.</li> </ul>	8
<ul> <li>Device replacement without swap medium</li> </ul>	Yes
— Send cycles	250 $\mu$ s, 500 $\mu$ s,1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility"
	option)
— Updating time	250 μs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details)
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
— User data consistency, max.	1 024 byte
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Routing	Yes
— S7 communication	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device
— Shared device	Yes
- Number of IO Controllers with shared device, max.	2
Transfer memory	
— Inputs, max.	1 440 byte; Per IO Controller with shared device
— Outputs, max.	1 440 byte; Per IO Controller with shared device
Submodules	
— Number, max.	64
User data per submodule, max.	1 024 byte
PROFINET CBA	. 02.23,0
acyclic transmission	Yes
cyclic transmission	Yes
Open IE communication	165
·	16
<ul><li>Number of connections, max.</li><li>Local port numbers used at the system end</li></ul>	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532,
Keep-alive function, supported	65533, 65534, 65535 Yes
Protocols	100
	Voc
PROFIsafe  Redundancy mode	Yes
Redundancy mode	
Media redundancy	
— Switchover time on line break, typ.	200 ms; PROFINET MRP
Number of stations in the ring, max.	50
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
<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
<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>	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	3,10
• supported	Yes
₹ SUDDUILGU	100

User-defined websites	Yes
Number of HTTP clients	5
communication functions / header	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
• supported	Yes
Number of GD loops, max.	8
Number of GD packets, max.	8
Number of GD packets, transmitter, max.	8
Number of GD packets, receiver, max.	8
Size of GD packets, max.	22 byte
Size of GD packet (of which consistent), max.	22 byte
S7 basic communication	
• supported	Yes
User data per job, max.	76 byte
User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
cos. sata po. jos (or milon condition), max.	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	·
<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 master/device functions</li> </ul>	30
<ul> <li>total of all master/device connections</li> </ul>	1 000
<ul> <li>data length of all incoming master/device connections, max.</li> </ul>	4 000 byte
<ul> <li>data length of all outgoing master/device connections, max.</li> </ul>	4 000 byte
<ul> <li>Number of device-internal and PROFIBUS interconnections</li> </ul>	500
<ul> <li>Data length of device-internal und PROFIBUS interconnections, max.</li> </ul>	4 000 byte
Data length per connection, max.	1 400 byte
performance data / PROFINET CBA / remote interconnection /	/ with acyclic transfer / header
— Sampling interval, min.	500 ms
<ul> <li>Number of incoming interconnections</li> </ul>	100
<ul> <li>Number of outgoing interconnections</li> </ul>	100
<ul> <li>Data length of all incoming interconnections, max.</li> </ul>	2 000 byte
Data length of all outgoing interconnections, max.	2 000 byte
<ul> <li>data volume / as user data for remote interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum</li> </ul>	1 400 byte
performance data / PROFINET CBA / remote interconnection	with cyclic transfer / header
Transmission frequency: Transmission interval, min.	10 ms
Number of incoming interconnections	200
Number of outgoing interconnections	200
Data length of all incoming interconnections, max.	2 000 byte
Data length of all outgoing interconnections, max.	2 000 byte
— data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum	450 byte
performance data / PROFINET CBA / HMI variables via PROF	INET / acyclic / header
Number of stations that can log on for HMI variables (PN OPC/iMap)	3; 2x PN OPC/1x iMap
— HMI variable updating	500 ms
— Number of HMI variables	200

<ul> <li>Data length of all HMI variables, max.</li> </ul>	2 000 byte
performance data / PROFINET CBA / PROFIBUS proxy fu	·
— 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	32
<ul> <li>usable for PG communication</li> </ul>	31
<ul> <li>reserved for PG communication</li> </ul>	1
<ul> <li>adjustable for PG communication, min.</li> </ul>	1
<ul> <li>adjustable for PG communication, max.</li> </ul>	31
<ul> <li>usable for OP communication</li> </ul>	31
<ul> <li>reserved for OP communication</li> </ul>	1
<ul> <li>adjustable for OP communication, min.</li> </ul>	1
<ul> <li>adjustable for OP communication, max.</li> </ul>	31
<ul> <li>usable for S7 basic communication</li> </ul>	30
<ul> <li>reserved for S7 basic communication</li> </ul>	0
<ul> <li>adjustable for S7 basic communication, min.</li> </ul>	0
<ul> <li>adjustable for S7 basic communication, max.</li> </ul>	30
<ul> <li>usable for S7 communication</li> </ul>	16
<ul> <li>reserved for S7 communication</li> </ul>	0
<ul> <li>adjustable for S7 communication, min.</li> </ul>	0
<ul> <li>adjustable for S7 communication, max.</li> </ul>	16
• total number of instances, max.	32
usable for routing	X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as PROFINET: 24 max.
S7 message functions	
Number of login stations for message functions, max.	32; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	300
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
<ul> <li>Status/control variable</li> </ul>	Yes
• Variables	Inputs, outputs, memory bits, DB, times, counters
<ul><li> Variables</li><li> Number of variables, max.</li></ul>	30
<ul><li> Variables</li><li> Number of variables, max.</li><li>— of which status variables, max.</li></ul>	30 30
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> </ul>	30
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> </ul> Forcing	30 30 14
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>Forcing</li> <li>Forcing</li> </ul>	30 30 14 Yes
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>Forcing</li> <li>Forcing, variables</li> </ul>	30 30 14  Yes Inputs, outputs
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul>	30 30 14 Yes
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>Forcing</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> <li>Diagnostic buffer</li> </ul>	30 30 14  Yes Inputs, outputs 10
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> <li>Diagnostic buffer</li> <li>present</li> </ul>	30 30 14  Yes Inputs, outputs 10
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> </ul> Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> Diagnostic buffer <ul> <li>present</li> <li>Number of entries, max.</li> </ul>	30 30 14  Yes Inputs, outputs 10  Yes 500
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> </ul> Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> Diagnostic buffer <ul> <li>present</li> <li>Number of entries, max.</li> <li>— adjustable</li> </ul>	30 30 14 Yes Inputs, outputs 10  Yes 500 No
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	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained
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.	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499
<ul> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> </ul> Forcing <ul> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> Diagnostic buffer <ul> <li>present</li> <li>Number of entries, max.</li> <li>— adjustable</li> <li>— of which powerfail-proof</li> <li>Number of entries readable in RUN, max.</li> <li>— adjustable</li> </ul> — adjustable <ul> <li>Number of entries readable in RUN, max.</li> </ul> — adjustable	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499
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	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499
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  Service data	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10
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  Service data  can be read out	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499
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  Service data  Can be read out  Ambient conditions	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10
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  Service data  can be read out  Ambient conditions  Ambient temperature during operation	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10  Yes
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  Service data  can be read out  Ambient conditions  Ambient temperature during operation  min.	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10  Yes
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  Service data  can be read out  Ambient conditions  Ambient temperature during operation  min.  max.	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10  Yes
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  Service data  can be read out  Ambient conditions  Ambient temperature during operation  min.	30 30 14  Yes Inputs, outputs 10  Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10  Yes

• STEP 7	Yes; V5.5 or higher
configuration / programming / header	
Command set	see instruction list
Nesting levels	8
System functions (SFC)	see instruction list
<ul> <li>System function blocks (SFB)</li> </ul>	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:

4/25/2024