## SIEMENS

## Data sheet

## 6ES7317-2EK14-0AB0



SIMATIC S7-300 CPU 317-2 PN/DP, Central processing unit with 1 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information	
HW functional status	01
Firmware version	V3.2
Product function	
Isochronous mode	Yes; Via PROFIBUS DP or PROFINET interface
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V5.5 or higher
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
<sup>2</sup> t	1 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	4.65 W
Memory	
Work memory	
<ul> <li>integrated</li> </ul>	1 024 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 у
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	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
CPU-blocks	0.10 μδ
	2.040: (DDa, ECa, EDa)) the maximum number of leadable blacks can
Number of blocks (total)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	,
<ul> <li>Number, max.</li> </ul>	2 048; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
• Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	1; OB 10
Number of delay alarm OBs	2; OB 20, 21
Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35
Number of process alarm OBs	1; OB 40
<ul> <li>Number of DPV1 alarm OBs</li> <li>Number of isochronous mode OBs</li> </ul>	3; OB 55, 56, 57
	1; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
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     oper priority class	16
additional within an error OB	4
Counters, timers and their retentivity	7
S7 counter	
Number	512
Retentivity	012
— adjustable	Yes
— lower limit	0
— upper limit	511
— preset	Z 0 to Z 7
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	512
Retentivity	Ver
— adjustable — lower limit	Yes
— IOWER IIMIT	0
	0
— upper limit	511
— upper limit — preset	
— upper limit — preset Time range	511 No retentivity
— upper limit — preset Time range — lower limit	511 No retentivity 10 ms
— upper limit — preset Time range — lower limit — upper limit	511 No retentivity
<ul> <li>upper limit</li> <li>preset</li> <li>Time range</li> <li>lower limit</li> <li>upper limit</li> <li>IEC timer</li> </ul>	511 No retentivity 10 ms 9 990 s
<ul> <li>upper limit</li> <li>preset</li> <li>Time range</li> <li>lower limit</li> <li>upper limit</li> <li>IEC timer</li> <li>present</li> </ul>	511 No retentivity 10 ms 9 990 s Yes
<ul> <li>upper limit</li> <li>preset</li> <li>Time range</li> <li>lower limit</li> <li>upper limit</li> <li>IEC timer</li> <li>present</li> <li>Type</li> </ul>	511 No retentivity 10 ms 9 990 s Yes SFB
<ul> <li>upper limit</li> <li>preset</li> <li>Time range</li> <li>lower limit</li> <li>upper limit</li> <li>IEC timer</li> <li>present</li> </ul>	511 No retentivity 10 ms 9 990 s Yes

Retentive data area (incl. timers, counters, flags), max.	256 kbyte
Flag	200 10/10
• Size, max.	4 096 byte
Retentivity available	Yes; From MB 0 to MB 4 095
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	o, Thenory byte
Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	165
per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	
I/O address area	
Inputs	8 192 byte
Outputs	8 192 byte
of which distributed	0 192 byte
	0 100 bits
— Inputs	8 192 byte
- Outputs	8 192 byte
Process image	9 102 hite
Inputs	8 192 byte
Outputs	8 192 byte
Inputs, adjustable	8 192 byte
Outputs, adjustable	8 192 byte
Inputs, default	256 byte
Outputs, default	256 byte
Subprocess images	
<ul> <li>Number of subprocess images, max.</li> </ul>	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	0,00
Inputs	65 536
— of which central	1 024
Outputs	65 536
— of which central	1 024
Analog channels	
Inputs	4 096
— of which central	256
Outputs	4 096
— of which central	256
Hardware configuration	200
Number of expansion units, max.	3
Number of DP masters	5
integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
Hardware clock (real-time)	Yes
<ul> <li>retentive and synchronizable</li> </ul>	Yes
-	
Backup time     Deviation per day, max	6 wk; At 40 °C ambient temperature
Deviation per day, max.     Behavior of the clock following POW/EP ON	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
<ul> <li>Behavior of the clock following expiry of backup period</li> </ul>	the clock continues at the time of day it had when power was switched off
Operating hours counter	
oportung nouro ocuntor	

• Number	4
<ul> <li>Number/Number range</li> </ul>	0 to 3
<ul> <li>Range of values</li> </ul>	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
retentive	Yes; Must be restarted at each restart
Clock synchronization	
• supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
• to DP, slave	Yes
• in AS, master	Yes
• in AS, slave	Yes
on Ethernet via NTP	Yes; As client
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Interfaces	
Number of industrial Ethernet interfaces	1; 2 ports (switch) RJ45
Number of PROFINET interfaces	1; 2 ports (switch) RJ45
Number of RS 485 interfaces	1; Combined MPI / PROFIBUS DP
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
<ul> <li>Output current of the interface, max.</li> </ul>	200 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP slave	Yes
<ul> <li>Point-to-point connection</li> </ul>	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	
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
Number of DP slaves, max.	124
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	Yes; I blocks only
— S7 communication	Yes
- S7 communication, as client	
	No
— S7 communication, as server	No Yes

	Yee
— Equidistance	Yes
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
<ul> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> </ul>	8
— Direct data exchange (slave-to-slave	Yes; as subscriber
communication)	
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP slave	
— Inputs, max.	244 byte
- Outputs, max.	244 byte
PROFIBUS DP slave	244 0910
Transmission rate, max.	12 Mbit/s
automatic baud rate search	
	Yes; only with passive interface
Address area, max.	32
User data per address area, max.	32 byte
Services	N .
- 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
— S7 communication, as server	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
automatic detection of transmission rate Autonegotiation	Yes; 10/100 Mbit/s Yes
Autonegotiation	
Autonegotiation Autocrossing	Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported	Yes Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types	Yes Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet)	Yes Yes Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports	Yes Yes Yes 2
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch	Yes Yes Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols	Yes Yes Yes 2 Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI	Yes Yes Yes 2 Yes No
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave	Yes Yes Yes Yes Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication	Yes Yes Yes Yes Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes; No Simultaneously with IO Controller functionality Yes No No
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy	Yes Yes Yes Yes Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes; No Simultaneously with IO Controller functionality Yes No No
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy	Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy PROFINET IO Controller	Yes Yes Yes Yes 2 Yes No No No No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy PROFINET IO Controller • Transmission rate, max.	Yes Yes Yes Yes 2 Yes No No No No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes Yes
Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy PROFINET IO Controller • Transmission rate, max. Services	Yes Yes Yes Yes 2 Yes No No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes Yes 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
<ul> <li>Number of IO devices with prioritized startup,</li> </ul>	32
max.	
<ul> <li>Number of connectable IO Devices, max.</li> </ul>	128
<ul> <li>— Of which IO devices with IRT, max.</li> </ul>	64
— of which in line, max.	64
<ul> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> </ul>	128
— of which in line, max.	61
<ul> <li>— Number of connectable IO Devices for RT,</li> </ul>	128
max.	
— 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
— IO Devices changing during operation (partner	Yes
ports), supported	0
— Number of IO Devices per tool, max.	8
Device replacement without swap medium	Yes
— Send cycles	250 $\mu s,$ 500 $\mu s,$ 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option)
— Updating time	250 $\mu s$ 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	
PROFINET IO Device Services	
PROFINET IO Device Services — PG/OP communication	Yes
PROFINET IO Device Services — PG/OP communication — Routing	Yes Yes
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
PROFINET IO Device Services — PG/OP communication — Routing	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFIenergy	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFIenergy — Shared device	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device,	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device
PROFINET IO Device Services - PG/OP communication - Routing - S7 communication - Isochronous mode - IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max. - Outputs, max. - Outputs, max. - User data per submodule, max. PROFINET CBA	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte
PROFINET IO Device Services - PG/OP communication - Routing - S7 communication - Isochronous mode - IRT - PROFIenergy - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max. - Outputs, max. - Outputs, max. Submodules - Number, max. - User data per submodule, max. PROFINET CBA • acyclic transmission	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes
PROFINET IO Device         Services         — PG/OP communication         — Routing         — S7 communication         — Isochronous mode         — IRT         — PROFIenergy         — Shared device         — Number of IO Controllers with shared device, max.         Transfer memory         — Inputs, max.         — Outputs, max.         — User data per submodule, max.         PROFINET CBA         • cyclic transmission	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte
PROFINET IO Device         Services         — PG/OP communication         — Routing         — S7 communication         — Isochronous mode         — IRT         — PROFlenergy         — Shared device         — Number of IO Controllers with shared device, max.         Transfer memory         — Inputs, max.         — Outputs, max.         — User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         Open IE communication	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes
PROFINET IO Device         Services         — PG/OP communication         — Routing         — S7 communication         — Isochronous mode         — IRT         — PROFlenergy         — Shared device         — Number of IO Controllers with shared device, max.         Transfer memory         — Inputs, max.         — Outputs, max.         — Outputs, max.         — User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         • Cyclic transmission         • Number of connections, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes
PROFINET IO Device         Services         — PG/OP communication         — Routing         — S7 communication         — Isochronous mode         — IRT         — PROFlenergy         — Shared device         — Number of IO Controllers with shared device, max.         Transfer memory         — Inputs, max.         — Outputs, max.         — User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         Open IE communication	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes
PROFINET IO Device         Services         — PG/OP communication         — Routing         — S7 communication         — Isochronous mode         — IRT         — PROFlenergy         — Shared device         — Number of IO Controllers with shared device, max.         Transfer memory         — Inputs, max.         — Outputs, max.         — Outputs, max.         — User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         • Cyclic transmission         • Number of connections, max.	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes
PROFINET IO Device         Services         — PG/OP communication         — Routing         — S7 communication         — Isochronous mode         — IRT         — PROFIenergy         — Shared device         — Number of IO Controllers with shared device, max.         Transfer memory         — Inputs, max.         — Outputs, max.         — Outputs, max.         — User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         • cyclic transmission         • Local port numbers used at the system end	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
PROFINET IO Device         Services         - PG/OP communication         - Routing         - S7 communication         - Isochronous mode         - IRT         - PROFlenergy         - Shared device         - Number of IO Controllers with shared device, max.         Transfer memory         - Inputs, max.         - Outputs, max.         - User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         • Could port numbers used at the system end         • Keep-alive function, supported	Yes Yes vith loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Yes
PROFINET IO Device         Services         - PG/OP communication         - Routing         - S7 communication         - Isochronous mode         - IRT         - PROFlenergy         - Shared device         - Number of IO Controllers with shared device, max.         Transfer memory         - Inputs, max.         - Outputs, max.         - Outputs, max.         - User data per submodule, max.         PROFINET CBA         • acyclic transmission         • cyclic transmission         • cyclic transmission         • Local port numbers used at the system end         • Keep-alive function, supported	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535

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
<ul> <li>ISO-on-TCP (RFC1006)</li> </ul>	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
<ul> <li>Number of connections, max.</li> </ul>	16
— Data length, max.	1 472 byte
Web server	
• supported	Yes
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
<ul> <li>Number of GD packets, transmitter, max.</li> </ul>	8
Number of GD packets, receiver, max.	8
<ul> <li>Size of GD packets, max.</li> </ul>	22 byte
<ul> <li>Size of GD packet (of which consistent), max.</li> </ul>	22 byte
S7 basic communication	
• supported	Yes
• User data per job, max.	76 byte
<ul> <li>User data per job (of which consistent), max.</li> </ul>	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
S7 communication	
<ul> <li>supported</li> </ul>	Yes
• as server	Yes
• as client	Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB
<ul> <li>User data per job, max.</li> </ul>	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 of	communication load) / header
<ul> <li>Setpoint for the CPU communication load</li> </ul>	50 %
<ul> <li>number of remote connection partners / with PROFINET CBA</li> </ul>	32
<ul> <li>number of technological functions / with PROFINET CBA / for master or slave</li> </ul>	30
<ul> <li>number of connections / with PROFINET CBA / for master or slave / total</li> </ul>	1 000
<ul> <li>data volume / of the input variables / with PROFINET CBA / for master or slave</li> </ul>	4 000 byte
<ul> <li>data volume / of the output variables / with PROFINET CBA / for master or slave</li> </ul>	4 000 byte
<ul> <li>number of internal and PROFIBUS interconnections</li> <li>/ with PROFINET CBA / maximum</li> </ul>	500
<ul> <li>data volume / of internal and PROFIBUS interconnections / with PROFINET CBA / for master or slave</li> </ul>	4 000 byte
data volume / with PROFINET CBA / per connection	1 400 byte
· · · ·	· · · · · · · · · · · · · · · · · · ·

/ maximum	
performance data / PROFINET CBA / remote interconnect	ction / with acyclic transfer / header
<ul> <li>update time / of the remote interconnections / in the case of acyclic transmission / with PROFINET CBA</li> </ul>	500 ms
<ul> <li>number of remote connections to input variables / in the case of acyclic transmission / with PROFINET CBA / maximum</li> </ul>	100
<ul> <li>— number of remote connections to output variables / in the case of acyclic transmission / with PROFINET CBA / maximum</li> </ul>	100
<ul> <li>data volume / as user data for remote interconnections with input variables / in the case of acyclic transmission / with PROFINET CBA</li> </ul>	2 000 byte
<ul> <li>data volume / as user data for remote interconnections with output variables / in the case of acyclic transmission / with PROFINET CBA</li> </ul>	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 interconnect	ction / with cyclic transfer / header
— update time / of the remote interconnections / with cyclical transfer / with PROFINET CBA	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
<ul> <li>— data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum</li> </ul>	450 byte
performance data / PROFINET CBA / HMI variables via F	PROFINET / acyclic / header
<ul> <li>— number of connectable HMI stations / for HMI variables / in the case of acyclic transmission / with PROFINET CBA</li> </ul>	3; 2x PN OPC/1x iMap
<ul> <li>update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA</li> <li>number of HMI variables / in the case of acyclic</li> </ul>	500 ms
transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables /	2 000 byte
in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIBUS proxy	functionality / header
— product function / with PROFINET CBA /     PROFIBUS proxy functionality	Yes
— number of coupled PROFIBUS devices / with     PROFIBUS functionality     data values (with PROFIBUS assure)	16 210 bits Slave decendent
<ul> <li>data volume / with PROFIBUS proxy functionality / with PROFINET CBA / per connection / maximum</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
usable for OP communication	31
- reserved for OP communication	1
<ul> <li>adjustable for OP communication, min.</li> </ul>	1

Number of login stations for message functions, max.         22: Depending on the configured connections for PG/OP and S7 basic communication.           Process diagnostic messages         Yes           simultaneously active Alarm-S blocks, max.         300           Fact commiscionation         Yes           Status block         Yes           Status block         Yes           Status/control variables         4           Status/control variables, max.         30           - of which status variables, max.         14           Forcing,         Yes           Number of variables, max.         10           Diagnostic buffer         •           • present         Yes           • wumber of entries, max.         500           • adjustable         No           • of which powerfail-proof         100: Only the last 100 entries are retained           • Number of entries readable in RUN, max.         499           - preset         10           Status/control variables, max.         60 °C           configuration / header         60 °C           confi	<ul> <li>adjustable for OP communication, max.</li> <li>usable for S7 basic communication <ul> <li>reserved for S7 basic communication</li> <li>adjustable for S7 basic communication, min.</li> <li>adjustable for S7 basic communication, max.</li> </ul> </li> <li>usable for S7 communication <ul> <li>reserved for S7 communication</li> <li>adjustable for S7 communication, min.</li> <li>adjustable for S7 communication, min.</li> <li>adjustable for S7 communication, max.</li> </ul> </li> <li>total number of instances, max.</li> <li>usable for routing</li> </ul>	31 30 0 0 30 16 0 0 16 32 X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as PROFINET: 24 max.
Process diagnostic messages     Yes       simultaneously active Alarm-S blocks, max.     300       Status block     Yes: Up to 2 simultaneously       Single step     Yes       Number of brackpoints     4       Status/control variables, max.     30       - of which status variables, max.     10       Forcing     Inputs, outputs       • Number of variables, max.     10       Diagnostic buffer     Yes       • present     Yes       • number of variables, max.     10       Diagnostic buffer     Yes       • present     Yes       • number of entries, max.     500       - of which powerfait-proof     100: Only the last 100 entries are retained       • Number of entries readable in RUN, max.     499       - preset     10       Stenzice data     *       • can be read out     Yes       • and be read out     Yes       • Ster P 7     Yes V5.5 or higher       Configuration software     see instruction list       • Ster P 7 <td></td> <td></td>		
simulaneously active Alam-S blocks, max.         300           Test commissioning functions         4           Status block         Yes; Up to 2 simultaneously           Number of breakpoints         4           Status slock         Yes           Number of breakpoints         4           Status/control         Yes           • Variables         Inputs, outputs, memory bits, DB, times, counters           • Variables         300           of which status variables, max.         30           of which status variables, max.         30           of which status variables, max.         14           Forcing         Yes           • Forcing, variables         Inputs, outputs           • Number of variables, max.         10           • Diagnostic buffer         -           • present         Yes           • Number of entries, max.         500           adjustable         No           of which powerfail-proof         100; Only the last 100 entries are retained           • Number of entries readable in RUN, max.         499           preset         10           • Ambient conditions         -           Ambient conditions         -           Ambient conditions </td <td>Process diagnostic messages</td> <td></td>	Process diagnostic messages	
Test commissioning functions           Status block         Yes; Up to 2 simultaneously           Single step         Yes           Number of breakpoints         4           Status/control variables         Yes           • Variables         Inputs, outputs, memory bits, DB, times, counters           • Number of variables, max.         30           - of which status variables, max.         30           - of which ontrol variables, max.         30           - of which ontrol variables, max.         30           - of which ontrol variables, max.         14           Porcing         Yes           • Forcing, variables         Inputs, outputs           • Number of entries, max.         10           Diagnostic buffer         500           - adjustable         No           - adjustable         No           - adjustable         No           - adjustable         Yes           Anbient conditions         Yes           Anbient conditions         O°C           configuration / header         See instruction list           configuration / broads         See instruction list           e STEP 7         Yes           Configuratin, functino blocks (SFE)         see instructin list <td></td> <td></td>		
Status block     Yes       Single step     Yes       Number of breakpoints     4       Status/control		
Single step     Yes       Number of breakpoints     4       Status/control variables     Yes       • Status/control variables, max.     30       of which status variables, max.     14       Forcing     Yes       • Forcing (or incide)     Inputs, outputs       • Number of variables, max.     10       Diagnostic buffer     Yes       • Present     Yes       • Number of variables in RUN, max.     500       adjustable     No       adjustable     Yes; From 10 to 499       preset     10       Service data     Service data       adjustable     Yes       orbit conditions		Ves: Un to 2 simultaneously
Number of breakpoints     4       Status/control		
Status/control variable       Yes         • Variables       Inputs, outputs, memory bits, DB, times, counters         • Number of variables, max.       30         - of which status variables, max.       30         - of which control variables, max.       30         - of which control variables, max.       14         Forcing       Yes         • Forcing, variables, max.       10         Diagnostic buffer       Yes         • Number of variables, max.       10         Diagnostic buffer       Yes         • Number of entries, max.       500         - adjustable       No         - of which powerfail-proof       100; Only the last 100 entries are retained         • Number of entries readable in RUN, max.       499         - adjustable       Yes; From 10 to 499         - preset       10         Service data       Yes         • anbe read out       Yes         Amblent conditions       O°C         Configuration / header       See instruction list         • min.       0 °C         configuration / programming / header       See instruction list         • Command set       see instruction list         • System function s(SFC)       see instruction list		
<ul> <li>Status/control variable</li> <li>Variables</li> <li>Variables</li> <li>Variables, max.</li> <li>of which status variables, max.</li> <li>of which control variables, max.</li> <li>of which control variables, max.</li> <li>Forcing</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Inputs, outputs</li> <li>Inputs, outputs</li> <li>Nomber of variables, max.</li> <li>Porcing</li> <li>Forcing, variables</li> <li>Inputs, outputs</li> <li>Inputs, outputs</li> <li>Nomber of variables, max.</li> <li>Diagnostic buffer</li> <li>Verses</li> <li>Nomber of entries, max.</li> <li>Statuston</li> <li>of which powerfail-proof</li> <li>No</li> <li>adjustable</li> <li>No</li> <li>of which powerfail-proof</li> <li>No</li> <li>of which powerfail-proof</li> <li>No</li> <li>of which powerfail-proof</li> <li>No</li> <li>of which of entries readable in RUN, max.</li> <li>499</li> <li>adjustable</li> <li>yes; From 10 to 499</li> <li>preset</li> <li>Service data</li> <li>can be read out</li> <li>Yes</li> <li>Ambient conditions</li> <li>Ambient temperature during operation</li> <li>min.</li> <li>0 °C</li> <li>configuration / header</li> <li>Configuration / header</li> <li>Configuration software</li> <li>StrEP 7</li> <li>Yes; V5.5 or higher</li> <li>configuration programming / header</li> <li>Configuration software</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>See instructi</li></ul>		·
• Variables     Inputs, outputs, memory bits, DB, times, counters       • Or which status variables, max.     30       - of which status variables, max.     14       Forcing     ves       • Forcing, variables, max.     10       Diagnostic buffer     ves       • present     500       - adjustable     No       - adjustable     Yes       - Ambient conditions     Yes       Anbient conditions     0°C       - max.     60°C       configuration / header     See instruction list       • StEP 7     Yes, V5.5 or higher       Configuration / loggamming / header     See instruction list       • Nesting levels     8       • System function s(SFC)     see instruction list       • System function blocks (SFB)     see instruction list       •		Yes
<ul> <li>Number of variables, max.</li> <li>O f which status variables, max.</li> <li>O f which control variables, max.</li> <li>Forcing</li> <li>Forcing</li> <li>Forcing, variables, max.</li> <li>Poreset</li> <li>Number of variables, max.</li> <li>Diagnostic buffer</li> <li>Verses</li> <li>Number of variables, max.</li> <li>Solution</li> <li>Another of variables, max.</li> <li>No</li> <li>- adjustable</li> <li>No</li> <li>- adjustable</li> <li>No</li> <li>- of which powerfail-proof</li> <li>No: Only the last 100 entries are retained</li> <li>Number of entries readable in RUN, max.</li> <li>Agestable</li> <li>Yes: From 10 to 499</li> <li>- preset</li> <li>Service data</li> <li>Conditions</li> <li>Ambient conditions</li> <li>Ambient temperature during operation</li> <li>oran be read out</li> <li>Yes: V5.5 or higher</li> <li>Configuration / header</li> <li>Configuration software</li> <li>System functions (SFC)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>See instruction list<td></td><td></td></li></ul>		
of which status variables, max.30 of which control variables, max.14ForcingForcing, variablesForcing, variablesInputs, outputsNumber of variables, max.10Diagnostic buffer-• presentYes• nadjustableNo adjustableNo adjustable100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499 adjustableYes; From 10 to 499 preset10Service dataYes• can be read outYesAmbient conditions0 ° Cconfiguration sforware0 ° C• Configuration sforware0 ° C• StEP 7Yes; V5.5 or higher• Configuration sforware8• System function S(SFC)see instruction list• System function blocks (SFB)see instruction list• Sol,Yes- FBDYes- FBDYes- Sol,Yes- Sol,Yes- CFCYes		
−of which control variables, max.     14       Forcing     Yes       ● Forcing, variables     Inputs, outputs       ● Number of variables, max.     10       Diagnostic buffer     •       ● present     Yes       ● Number of entries, max.     500       - adjustable     No       - of which powerfail-proof     100; Only the last 100 entries are retained       ● Number of entries readable in RUN, max.     499       - adjustable     Yes; From 10 to 499       - preset     10       Service data     •       • can be read out     Yes       Ambient conditions     0 °C       configuration / heador     60 °C       configuration / heador     See instruction list       • STEP 7     Yes; V5.5 or higher       configuration / heador     see instruction list       • Nesting levels     8       • System functions (SFC)     see instruction list       • System function blocks (SFB)     yes		
Forcing       Yes <ul> <li>Forcing, variables</li> <li>Inputs, outputs</li> <li>Inputs, outputs</li> <li>Number of variables, max.</li> <li>Diagnostic buffer</li> <li>Present</li> <li>Yes</li> <li>Number of entries, max.</li> <li>So0</li> <li>- adjustable</li> <li>No</li> <li>- of which powerfail-proof</li> <li>No (Only the last 100 entries are retained</li> <li>Number of entries, readable in RUN, max.</li> <li>499</li> <li>- adjustable</li> <li>Yes, From 10 to 499</li> <li>- preset</li> <li>Service data</li> <li>can be read out</li> <li>Yes</li> <li>Ambient temperature during operation</li> <li>min.</li> <li>0 °C</li> <li>max.</li> <li>60 °C</li> <li>Configuration / header</li> <li>Configuration / header</li> <li>Configuration / programming / header</li> <li>Command set</li> <li>System function (SFC)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>System function (SFC)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>System function (SFC)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <l< td=""><td></td><td></td></l<></ul>		
• Forcing     Yes       • Forcing, variables     Inputs, outputs       • Number of variables, max.     10       Diagnostic buffer     •       • present     Yes       • Number of entries, max.     500       - adjustable     No       - of which powerfail-proof     100; Only the last 100 entries are retained       • Number of entries readable in RUN, max.     499       - adjustable     No       - adjustable     Yes; From 10 to 499       - preset     10       Service data     10       • can be read out     Yes       Ambient conditions     Yes       Ambient conditions     0 °C       • max.     60 °C       configuration / header     Configuration software       • STEP 7     Yes; V5.5 or higher       configuration software     see instruction list       • Nesting levels     8       • System function locks (SFC)     see instruction list       • Nesting levels     8       • System function bocks (SFC)     see instruction list       • System function bocks (SFC)     see instruction list       • System function blocks (SFB)     see instruction list       • System function blocks (SFB)     see instruction list       • FBD     Yes       - FBD		
<ul> <li>Fording, variables</li> <li>Number of variables, max.</li> <li>10</li> <li>Diagnostic buffer</li> <li>present</li> <li>ves</li> <li>Number of entries, max.</li> <li>500</li> <li>- adjustable</li> <li>No</li> <li>- of which powerfail-proof</li> <li>100; Only the last 100 entries are retained</li> <li>Number of entries readable in RUN, max.</li> <li>499</li> <li>- adjustable</li> <li>Yes; From 10 to 499</li> <li>- preset</li> <li>10</li> <li>Service data</li> <li>can be read out</li> <li>Yes</li> <li>Ambient conditions</li> <li>Ambient during operation</li> <li>min.</li> <li>0 °C</li> <li>configuration / header</li> <li>Configuration / header</li> <li>Comfiguration / programming / header</li> <li>Command set</li> <li>see instruction list</li> <li>System functions (SFC)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>See instruction list</li> <li>Programming language</li> <li>- LAD</li> <li>Yes</li> <li>STL</li> <li>Yes</li> <li>SCL</li> <li>- CFC</li> <li>Yes</li> </ul>	-	Yes
• Number of variables, max.     10       Diagnostic buffer     Yes       • present     Yes       • Number of entries, max.     500       - adjustable     No       - of which powerfail-proof     100; Only the last 100 entries are retained       • Number of entries readable in RUN, max.     499       - adjustable     Yes; From 10 to 499       - preset     10       Service data     Yes       • can be read out     Yes       Ambient conditions     Yes       Ambient conditions     0 °C       configuration / header     60 °C       Configuration / header     Servicion list       • STEP 7     Yes; V5.5 or higher       • Configuration / programming / header     see instruction list       • Nesting levels     8       • System function s(SFC)     see instruction list       • System function blocks (SFB)     see instruction list       • Programming language     -       - LAD     Yes       - FBD     Yes       - FBD     Yes       - SCL     Yes       - CFC     Yes	-	
Diagnostic buffer         • present       Yes         • Number of entries, max.       500         adjustable       No         of which powerfail-proof       100; Only the last 100 entries are retained         • Number of entries readable in RUN, max.       499         adjustable       Yes; From 10 to 499         preset       10         Service data       -         • can be read out       Yes         Ambient temperature during operation       0 °C         • max.       60 °C         Configuration / programming / header       -         • Comfiguration / programming / header       -         • Command set       see instruction list         • Nesting levels       8         • System function (SFC)       see instruction list         • System function (SFC)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language       -         LAD       Yes         FBD       Yes         SCL       Yes         SCL       Yes	-	
• presentYes• Number of entries, max.500- adjustableNo- of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499- adjustableYes; From 10 to 499- preset10Service dataYes• can be read outYesAmbient conditionsYesAmbient temperature during operation0 °C• min.0 °C• max.60 °Cconfiguration / headerService in RumanneConfiguration / headersee instruction list• StEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language/ees- LADYes- FBDYes- STLYes- SCLYes- SCLYes- CFCYes		
• Number of entries, max.500- adjustableNo- of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499- adjustableYes; From 10 to 499- preset10Service data• can be read outYesYesAmbient temperature during operation• min.0 °C• max.60 °CConfiguration / headerConfiguration / headerConfiguration / programming / header• Command setsee instruction list• Nesting levels8• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction list• FBDYes- FBDYes- SCLYes- SCLYes- SCLYes- CFCYes	-	Yes
adjustableNo of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499 adjustableYes; From 10 to 499 preset10Service data• can be read outYesAmbient temperature during operation0 °C• min.0 °C• max.60 °Cconfiguration / header• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Nesting levels8• System functions blocks (SFB)see instruction listProgramming languageYes LADYes FBDYes SCLYes SCLYes CFCYes		
of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499 adjustableYes; From 10 to 499 preset10Service dataYes• can be read outYesAmbient conditionsYesAmbient temperature during operation0 °C• min.0 °C C• max.60 °Cconfiguration / headerConfiguration software• STEP 7Yes; V5.5 or higherconfiguration / programming / headerSee instruction list• Command setsee instruction list• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction list• STL-LADYes- FBDYes- STLYes- SCLYes- SCLYes- CFCYes		
• Number of entries readable in RUN, max.499- adjustableYes; From 10 to 499- preset10Service data• can be read outYesAmbient conditionsAmbient temperature during operation• min.0 °C• max.60 °Cconfiguration / headerConfiguration / header• STEP 7Yes; V5.5 or higher• STEP 7Yes; V5.5 or higher• Comfiguration / programming / headersee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- STLYes- SCLYes- CFCYes		100; Only the last 100 entries are retained
preset10Service data• can be read outYesAmbient conditionsAmbient temperature during operation• min.0 °C• max.60 °Cconfiguration / headerConfiguration software• STEP 7Yes; V5.5 or higherconfiguration / programming / header• Command setsee instruction list• Nesting levels8• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction listProgramming language- LAD- LADYes- FBDYes- SCLYes- SCLYes- CFCYes		
preset10Service dataYesAmbient conditions0 °CAmbient temperature during operation0 °C• min.0 °C• max.60 °Cconfiguration / headerConfiguration software• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes	— adjustable	Yes; From 10 to 499
• can be read out       Yes         Ambient conditions       Ambient temperature during operation         • min.       0 °C         • max.       60 °C         configuration / header       Configuration software         • STEP 7       Yes; V5.5 or higher         configuration / programming / header       see instruction list         • Command set       see instruction list         • Nesting levels       8         • System function blocks (SFB)       see instruction list         Programming language       -         - LAD       Yes         - STL       Yes         - SCL       Yes         - CFC       Yes	— preset	10
Ambient conditions         Ambient temperature during operation         • min.       0 °C         • max.       60 °C         configuration / header         Configuration software         • STEP 7       Yes; V5.5 or higher         configuration / programming / header          • Command set       see instruction list         • Nesting levels       8         • System functions (SFC)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language	Service data	
Ambient temperature during operation       0 °C         • min.       60 °C         configuration / header       60 °C         Configuration software       • STEP 7         • STEP 7       Yes; V5.5 or higher         configuration / programming / header       • Command set         • Command set       see instruction list         • Nesting levels       8         • System functions (SFC)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language       – LAD         - LAD       Yes         - STL       Yes         - SCL       Yes         - SCL       Yes         - CFC       Yes	• can be read out	Yes
<ul> <li>min.</li> <li>max.</li> <li>60 °C</li> <li>configuration / header</li> <li>Configuration software</li> <li>STEP 7</li> <li>Yes; V5.5 or higher</li> <li>configuration / programming / header</li> <li>Command set</li> <li>see instruction list</li> <li>Nesting levels</li> <li>System functions (SFC)</li> <li>see instruction list</li> <li>System function blocks (SFB)</li> <li>see instruction list</li> <li>Programming language</li> <li>- LAD</li> <li>- FBD</li> <li>- STL</li> <li>SCL</li> <li>- SCL</li> <li>- CFC</li> <li>Yes</li> </ul>	Ambient conditions	
• max.60 °Cconfiguration / headerConfiguration softwareYes; V5.5 or higher• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• Programming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes	Ambient temperature during operation	
configuration / header         • STEP 7       Yes; V5.5 or higher         configuration / programming / header       see instruction list         • Command set       see instruction list         • Nesting levels       8         • System functions (SFC)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language       - LAD         - FBD       Yes         - STL       Yes         - SCL       Yes         - CFC       Yes	• min.	0°0
Configuration software• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes	• max.	60 °C
• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes	configuration / header	
• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes	Configuration software	
• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• Programming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes	-	Yes; V5.5 or higher
Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes	configuration / programming / header	
• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes	Command set	see instruction list
• System function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes	Nesting levels	8
Programming language         — LAD       Yes         — FBD       Yes         — STL       Yes         — SCL       Yes         — CFC       Yes	<ul> <li>System functions (SFC)</li> </ul>	see instruction list
LADYes FBDYes STLYes SCLYes CFCYes	<ul> <li>System function blocks (SFB)</li> </ul>	see instruction list
FBDYes STLYes SCLYes CFCYes	Programming language	
STLYes SCLYes CFCYes	— LAD	Yes
SCL     Yes       CFC     Yes	— FBD	Yes
- CFC Yes	— STL	Yes
	— SCL	Yes
— GRAPH Yes	— CFC	Yes
	— GRAPH	Yes

— HiGraph®	Yes
Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
<ul> <li>Block encryption</li> </ul>	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	340 g

last modified:

4/1/2022 🖸