**Data sheet** 

## 6ES7318-3FL01-0AB0



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

General information	
Product type designation	CPU 319F-3 PN/DP
HW functional status	01
Firmware version	V3.2
Product function	
Isochronous mode	Yes; Via 2nd PROFIBUS DP or PROFINET interface
Engineering with	
Programming package	STEP 7 V5.5 or higher, Distributed Safety V5.4 SP4
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
<ul> <li>Repeat rate, min.</li> </ul>	1 s
Input current	
Current consumption (rated value)	1 250 mA
Current consumption (in no-load operation), typ.	500 mA
Inrush current, typ.	4 A
I²t	1.2 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	14 W
Memory	
Work memory	
<ul><li>integrated</li></ul>	2 560 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
<ul><li>without battery</li></ul>	Yes
CPU processing times	
for bit operations, typ.	0.004 μs
for word operations, typ.	0.01 μs
for fixed point arithmetic, typ.	0.01 µs
	0.0 . 40

PU-blocks	
Number of blocks (total)	4 096; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
Number, max.	4 096; Number range: 1 to 16000
• Size, max.	64 kbyte
Number, max.	4 096; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	o i kajta
Number, max.	4 096; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
<ul> <li>Number of time alarm OBs</li> </ul>	1; OB 10
<ul> <li>Number of delay alarm OBs</li> </ul>	2; OB 20, 21
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32, 33, 34, 35 (OB 35: smallest settable clock pulse = 500 μs)
<ul> <li>Number of process alarm OBs</li> </ul>	1; OB 40
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55, 56, 57
Number of isochronous mode OBs	1; OB 61
Number of startup OBs	1; OB 100
Number of asynchronous error OBs	6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
per priority class	16
additional within an error OB	4
ounters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	999
	Yes
• present	
Type     Number	SFB Unlimited (limited only by PAM capacity)
Number  S7 times	Unlimited (limited only by RAM capacity)
S7 times	2.040
Number  Petentivity	2 048
Retentivity	Voc
— adjustable	Yes
— preset	No retentivity
Time range	40
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
ata areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	700 kbyte
Flag	
• Size, max.	8 192 byte
Retentivity available	Yes; From MB 0 to MB 8 191
Retentivity preset	MB 0 to MB 15
N. J. C. J. J.	O. A management by the
Number of clock memories	8; 1 memory byte

Retentivity adjustable	Yes; via non-retain property on DB
Retentivity adjustable     Retentivity preset	Yes
Local data	
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	
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	
• Inputs	8 192 byte
<ul> <li>Outputs</li> </ul>	8 192 byte
<ul> <li>Inputs, adjustable</li> </ul>	8 192 byte
<ul> <li>Outputs, adjustable</li> </ul>	8 192 byte
<ul> <li>Inputs, default</li> </ul>	1 024 byte
Outputs, default	1 024 byte
Subprocess images	
Number of subprocess images, max.	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	
• Inputs	65 536
— of which central	1 024
<ul> <li>Outputs</li> </ul>	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	
Number of DP masters	
• integrated	2
• via CP	4
Number of operable FMs and CPs (recommended)	0
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack  Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
Deviation per day, max.	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup period	the clock continues at the time of day it had when power was switched off
Operating hours counter	and an analysis and an any arrived friend portor rade officeriod offi
Number	4
Number/Number range	0 to 3
Range of values	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
• retentive	Yes; Must be restarted at each restart
Clock synchronization	
• supported	Yes
• to MPI, master	Yes
• on MPI, device	Yes
• to DP, master	Yes; With DP slave only slave clock
•	

a on DD dovice	Von
on DP, device     in AS, master	Yes
• in AS, master	Yes
• in AS, device	Yes
on Ethernet via NTP  Digital inputs	Yes; As client
Digital inputs	0
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	0
Number of analog inputs	0
Interfaces	1
Number of PROFINET interfaces	2
Number of RS 485 interfaces  Number of RS 422 interfaces	0
1. Interface	U .
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	103
• RS 485	Yes
Output current of the interface, max.	150 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes; A DP slave at both interfaces simultaneously is not possible
Point-to-point connection	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
<ul> <li>Global data communication</li> </ul>	Yes
<ul> <li>S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	No; but via CP and loadable FB
— S7 communication, as server	Yes
PROFIBUS DP master	
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
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	No
— SYNC/FREEZE	Yes
activation/deactivation of DP devices	Yes
— max. number of DP devices that can be activated/deactivated at the same time  Disput data such as a color to a love.	8
Direct data exchange (slave-to-slave communication)	Yes; as subscriber
— DPV1	Yes
Address area	011.4
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP device	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte

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1st interface / PROFIBUS DP device / header	40 Mb W
Transmission rate, max.	12 Mbit/s
automatic baud rate search	Yes; only with passive interface
<ul> <li>Address area, max.</li> </ul>	32
User data per address area, max.	32 byte
Services	
<ul><li>— PG/OP communication</li></ul>	Yes
— Routing	Yes; with interface active
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	No
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	No
<ul> <li>S7 communication, as server</li> </ul>	Yes; Connection configured on one side only
<ul> <li>Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
<ul> <li>Output current of the interface, max.</li> </ul>	200 mA
Protocols	
• MPI	No
PROFINET IO Controller	No
PROFINET IO Device	No
PROFINET CBA	No
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes; A DP slave at both interfaces simultaneously is not possible
Open IE communication	No
Web server	No
PROFIBUS DP master	
Transmission rate, max.	12 Mbit/s
max. number of DP devices	124
Services	·
— PG/OP communication	Yes
— Routing	Yes
Global data communication	No
Global data communication  S7 basic communication	Yes; I blocks only
— S7 basic communication  — S7 communication	Yes, I blocks only
S7 communication     S7 communication, as client	No
	Yes; Connection configured on one side only
— S7 communication, as server	
<ul><li>Equidistance</li><li>Isochronous mode</li></ul>	Yes Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
— SYNC/FREEZE	Yes
<ul> <li>activation/deactivation of DP devices</li> <li>max. number of DP devices that can be activated/deactivated at the same time</li> </ul>	Yes 8
Direct data exchange (slave-to-slave communication)	Yes; as subscriber
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
·	O NDYIC
User data per DP device	244 byto
— Inputs, max.	244 byte
— Outputs, max.	244 byte
2nd interface / PROFIBUS DP device / header	

GSD file	The latest GSD file is available at: http://www.siemens.com/profibus-gsd
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
automatic baud rate search	Yes; only with passive interface
<ul> <li>Address area, max.</li> </ul>	32
User data per address area, max.	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes; with interface active
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	No
— S7 communication	Yes
<ul> <li>— S7 communication, as client</li> </ul>	No
<ul> <li>S7 communication, as server</li> </ul>	Yes; Connection configured on one side only
<ul> <li>— Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
3. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes
Interface types	160
• RJ 45 (Ethernet)	Yes
Number of ports	2
integrated switch	Yes
Protocols	165
• MPI	No
PROFINET IO Controller	Yes; Also simultaneously with I-Device functionality
PROFINET IO Device	Yes; Also simultaneously with IO Controller functionality
PROFINET CBA	Yes
PROFIBUS DP master	No
PROFIBUS DP device	
Open IE communication	No
•	Yes; Via TCP/IP, ISO on TCP, and UDP
Web server	Yes
Media redundancy	Yes
DDOCINET IO Octobell	
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Transmission rate, max.  Services	100 Mbit/s
<ul> <li>Transmission rate, max.</li> <li>Services</li> <li>PG/OP communication</li> </ul>	100 Mbit/s Yes
<ul> <li>Transmission rate, max.</li> <li>Services         <ul> <li>PG/OP communication</li> <li>Routing</li> </ul> </li> </ul>	100 Mbit/s  Yes Yes
Transmission rate, max.  Services  — PG/OP communication  — Routing  — S7 communication	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
Transmission rate, max.  Services  — PG/OP communication  — Routing  — S7 communication  — Isochronous mode	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
<ul> <li>Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</li> <li>— Shared device</li> </ul>	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes
● Transmission rate, max.  Services  — PG/OP communication  — Routing — S7 communication  — Isochronous mode  — Shared device — Prioritized startup	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes
● Transmission rate, max.  Services  — PG/OP communication — Routing — S7 communication  — Isochronous mode  — Shared device — Prioritized startup — Number of IO devices with prioritized startup, max.	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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> </ul>	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256
● Transmission rate, max.  Services  — PG/OP communication — Routing — S7 communication  — Isochronous mode  — Shared device — Prioritized startup — Number of IO devices with prioritized startup, max.	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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> </ul>	Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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 IO devices with IRT, max.</li> </ul>	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256 64
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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 IO devices with IRT, max.</li> <li>— of which in line, max.</li> <li>— Number of IO Devices with IRT and the option "high</li> </ul>	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256 64 64
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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 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>	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256 64 64 64 256
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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 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>— of which in line, max.</li> </ul>	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256 64 64 64 256
<ul> <li>◆ Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— S7 communication</li> <li>— Isochronous mode</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 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>— of which in line, max.</li> <li>— Number of connectable IO Devices for RT, max.</li> </ul>	Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 Yes; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Yes Yes 32 256 64 64 64 256

activated/deactivated, max.	
— IO Devices changing during operation (partner ports) supported.	Yes
ports), supported	
Number of IO Devices per tool, max.	8
Device replacement without swap medium	Yes
— Send cycles	250 μs, 500 μs,1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option)
— Updating time	250 μs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU
	31xC and CPU 31x, technical Data" for more details)
Address area	
— Inputs, max.	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	V
acyclic transmission	Yes
cyclic transmission	Yes
Open IE communication	
Number of connections, max.	32
Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Keep-alive function, supported	Yes
Protocols	
PROFIsafe	Yes
Redundancy mode	
Media redundancy	
— Switchover time on line break, typ.	200 ms; PROFINET MRP
— Number of stations in the ring, max.	50
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
<ul> <li>Number of connections, max.</li> </ul>	32
<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
• ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
<ul> <li>Number of connections, max.</li> </ul>	32
— Data length, max.	32 768 byte
• UDP	Yes; via integrated PROFINET interface and loadable FBs
<ul> <li>Number of connections, max.</li> </ul>	32
— Data length, max.	
Data length, max.	1 472 byte
Web server	1 472 byte
	1 472 byte Yes
Web server	
Web server	Yes
Web server  • supported  • User-defined websites	Yes Yes

Supported   Supp	Data record routing	Yes
* supported     * Number of GD loops, max.     * Number of GD packets, max.     * Size of GD packets, max.     *		160
Number of GD loops, max.  Number of GD packets, max.  Number of GD packets, transmitter, max.  Number of GD packets, transmitter, max.  Number of GD packets, receiver, max.  Size of GD packets (of which consistent), max.  Post person of the property of		Yes
Number of GD packets, max. Number of GD packets, was. Size of GD packets, max. Size of GD packets of GD	• • • • • • • • • • • • • • • • • • • •	
Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, for Control of State of Control of Control of State of Control of Control of State of Control of Control of State of Control of Contro	·	
Number of CD packets, receiver, max. Size of GD packet (of which consistent), max. 22 byte Size of GD packet (of which consistent), max. 22 byte Size of GD packet (of which consistent), max. 22 byte Size of GD packet (of which consistent), max. 46 byte of CD packet (of which consistent), max. 47 byte Size of GD packet (of which consistent), max. 47 byte Size of CD packet (of which consistent), max. 48 byte of CD packet (of which consistent), max. 49 byte of CD packet (of which consistent), max. 57 communication 58 compatible communication 59 server 50 socient of CD packet (of which consistent), max. 59 compatible communication 59 compatible communication 59 server 50 socient of CD packet (of which consistent), max. 50 compatible communication 50 septiment of CD packet (of With Size of CD packet (of CD	•	
Size of GD packets, max. Size of GD packets (of which consistent), max.  2 byte  Size of GD packet (of which consistent), max.  2 byte  Size of GD packet (of which consistent), max.  2 byte  Size of GD packet (of which consistent), max.  5 byte  1 byte	•	
Size of GD packet (of which consistent), max.  7 basic communication  • supported • User data per job, max.  • User data per job, of which consistent), max.  7 6 byte • User data per job (of which consistent), max.  7 6 byte • as properted • sa server • sa scient • supported • sa server • as client • User data per job, max.  See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of \$7 Communication • Supported • User data per job, max.  See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of \$7 Communication functions / PROFINET CBA (with set target communication functions / PROFINET CBA (with set target communication load) / header • Septonit for the CPU communication load • Septonit for the CPU communication load • Setonit for the CPU communication l	•	
S7 basic communication  • supported  • User data per job, max. • User data per job (of which consistent), max.  • Supported  • supported  • Supported  • Supported  • User data per job (of which consistent), max.  • Supported  • Supported  • User data per job, max.  • Sea continuity  • User data per job, max.  S5 compatible communication  • Supported  • User data per job, max.  S5 compatible communication  • Supported  • User data per job, max.  S5 compatible communication  • Supported  • Sea contine help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)  • Supported  • Sepoint for the CPU communication load  • Sepoint for the CPU communication load  • Number of measter/device functions  • data length of all incoming master/device connections, max.  • data length of all outgoing master/device connections, max.  • Number of device-internal and PROFIBUS interconnections, max.  • Data length of all incoming interconnections  — Sampling interval, min.  — Number of incoming interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections  — Number of incoming interconnections  — Number of incoming interconnections  — Data length of all outgoing interconnections  — Data length of all outgoing interconnections  — Number of utgoing interconnections  — Number of utgoing interconnections  — Data length of all outgoing interconnections, max.  — Data le	•	
Strommunication Strommunicati		22 byte
User data per job, max. 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_GE as server)  75 communication  Supported See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FGs of S7 Communication)  Sports of S7 communication  Post of S7 communication  Sports of S7 communication  Post of S7 communication  Sports of S7 communication  Sports of S7 communication  Post of S7 communication  Sports of S7 communication  Post of S7 communication  Sports of S7 communication  Post of S7 c		Vac
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_GE as server)  Supported  Supported  Supported  Supported  Supported  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)  See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)  Sycar Communication  Supported  Supported  Supported  Yes; via CP and loadable FC  Communication functions / PROFINET CBA (with set target communication load) / header  Supported  Supporte	• •	
as server)  ST communication  supported as server yes as client ves: 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)  Stompatible communication supported yes; via CP and loadable FC communication functions/ PROFINET CBA (with set target communication load) / header set performance in the CPU communication load Number of remote interconnection partners siz number of remote interconnection partners siz number of master/device functions of all and length of all incoming master/device connections, and with the set length of all incoming master/device connections, and with the set length of all incoming master/device connections, and with the set length of all incoming master/device connections, and set length of all incoming master/device connections and set length of all incoming master/device connections and set length of all incoming interval min.  Data length of all part of length of levice-internal and PROFIBUS and set length of all incoming interconnections and set length of all incoming interconnections and set length of all incoming interconnections and set length of all incoming interconnections, max.  Data length of all incoming interconnections, max.  Data length of all incoming interconnections, max.  1 400 byte performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  Transmission frequency. Transmission interval, min.  Number of incoming interconnections, max.  4 800 byte  Data length of all outgoing interconnections, max.  4 800 byte  Data length of all outgoing interconnections, max.  4 800 byte  Data length of all outgoing interconnections, max.  4 800 byte  Data length of all outgoing interconnections, max.  4 800 byte  Data length of all outgo		
supported     as server	• Oser data per job (or which consistent), max.	
as server as client  by See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of ST Communication)  supported  supported  Set online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of ST Communication)  yes, via CP and loadable FC  communication functions / PROFINET CBA (with set target communication load) / header  Setpoint for the CPU communication load  Number of remote interconnection partners  122  number of master/device functions  total of all master/device connections  atal length of all incoming master/device connections, max.  data length of all outgoing master/device connections, max.  A unumber of device-internal and PROFIBUS  interconnections  Data length of evice-internal und PROFIBUS  interconnections, max.  Data length per connection, max.  Data length of all outgoing interconnections  Number of incoming interconnections  Number of incoming interconnections  Data length of all outgoing interconnections, max.  A unumber of incoming interconnections, max.  Data length of all outgoing interconnections, max.  A unumber of incoming interconnections, max.  A unumber of outgoing interconnections, max.  A unumber of outgoing interconnections, max.  A unumber of all incoming interconnections, max.  A unumber of stations that can log on for HMI variables in a proper interconnection interconnection interconnection, max.  A unumber of stations that can log on for HMI variables in a proper interconnection interconnection interconnection interconnection interconnection interconnection interconnection	S7 communication	
Vasr data per job, max.     See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)  Stompatible communication  Supported  See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)  Yes; via CP and loadable FC  Communication functions / PROFINET CBA (with set target communication load) / header  Setpoint for the CPU communication load  Number of remote interconnection partners  I total of all master/device functions  I total of all master/device connections  I total of all master/device connections  I total of all master/device connections  Max.  Number of device-internal and PROFIBUS  Interconnections  Data length of device-internal and PROFIBUS  Interconnections, max.  Data length of PROFINET CBA / remote interconnection / with acyclic transfer / header  — Sampling interval, min.  Number of olugoing interconnections  Data length of all outgoing interconnections, max.  Data length of all outgoing interconnections, max.  Data length of all incoming interconnections, max.  200 byte  Data length of all incoming interconnections, max.  3 200 byte  Data length of all outgoing interconnections, max.  3 200 byte  Data length of all outgoing interconnections, max.  Data length of all outgoing interconnections, max.  3 200 byte  Data length of all outgoing interconnections, max.  Data length of all outgoing interconnections, max.  All 00 byte  Performance data / PROFINET CBA / remote interconnection / with outgoing interconnections  Number of incoming interconnections, max.  All 00 byte  Performance data / PROFINET CBA / remote interconnection / with outgoing interconnections  Data length of all outgoing interconnections, max.  All 00 byte  Performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  Number of stations that can log on for HMI variables  Profixed byte / Profixed Profixed Byte / HMI variables via PROFINET / acyclic / header  Number of variable updating	<ul> <li>supported</li> </ul>	Yes
User data per job, max. Seconpatible communication  supported supported Seconpatible communication (PROFINET CBA (with set target communication load) / header  Setpoint for the CPU communication load Number of remote interconnection partners total of all master/device functions data length of all incoming master/device connections, max.  Mumber of device-internal and PROFIBUS interconnections, max.  Data length of all outgoing interconnections Thursher of incoming interconnections Data length of all incoming interconnections Number of incoming interconnections Data length of all incoming interconnections Data length per connections, max.  Data length per connections Data length of all incoming interconnections Data length of all incoming interconnections Data length of all incoming interconnections Data length of incoming interconnections Data length of all incoming interconnections Dat	• as server	Yes
SFCs/FCs of \$7 Communication)  • supported Yes; via CP and loadable FC  communication functions / PROFINET CBA (with set target communication load) / header  • Setpoint for the CPU communication load 20 %  • Number of masteridevice functions 50 0  • total of all masteridevice functions 50 0  • data length of all incoming master/device connections, 24 000 byte max.  • data length of all outgoing master/device connections, 24 000 byte max.  • Number of device-internal and PROFIBUS 1000 on the connections, max.  • Data length of device-internal und PROFIBUS 8 000 byte interconnections, max.  • Data length of device-internal und PROFIBUS 1000 on the connection, max.  • Data length of connection, max. 1 400 byte performance data / PROFINET CBA / remote interconnection / with acyclic transfer / header  — Sampling interval, min. 200 ms  — Number of incoming interconnections 100  — Data length of all incoming interconnections, max. 3 200 byte  — Data length of all incoming interconnections, max. 3 200 byte  — Data length of all outgoing interconnections, max. 1 400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  — Data length of all incoming interconnections, max. 3 200 byte  — Data length of all incoming interconnections interval, min. 1 ms  — Data length of reconnection, max. 1 400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  — Transmission frequency: Transmission interval, min. 1 ms  — Number of incoming interconnections, max. 4 800 byte  — Data length per connection, max. 4 800 byte  performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  — Number of stations that can log on for HMI variables (PN OPC/I/x iMap)  — HMI variable updating	• as client	
St compatible communication  supported  Stepoint for the CPU communication load  Number of remote interconnection partners  number of master/device functions  total of all master/device connections  at all ength of all outgoing master/device connections, max.  Abumber of device-internal and PROFIBUS  interconnections  Data length of every connection, max.  Data length per connection, max.  Data length of outgoing interconnections  Number of outgoing interconnections  abumber of device-internal and PROFIBUS  interconnections  Data length of every connection, max.  Data length of all outgoing interconnections interconnection / with acyclic transfer / header  Sampling interval, min.  Number of outgoing interconnections, max.  Data length of all incoming interconnections, max.  Data length of all outgoing interconnections, max.  100  Number of outgoing interconnections, max.  Data length of all outgoing interconnections, max.  Data length of all incoming interconnections, max.  Data length of all outgoing interconnections, max.  1400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  Data length of all outgoing interconnections, max.  1400 byte  Data length of all outgoing interconnection, max.  1400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  Transmission frequency: Transmission interval, min.  Number of incoming interconnections  300  Number of outgoing interconnections  300  Number of outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800 byte  Data length of all outgoing interconnections, max.  4800	• User data per job, max.	
• supported  very via CP and loadable FC  communication functions / PROFINET CBA (with set target communication load) / header  • Setpoint for the CPU communication load  • Number of remote interconnection partners  • number of master/device functions  • total of all master/device connections  • total of all master/device connections, and total of all incoming master/device connections, and data length of all incoming master/device connections, and with a constant of the control of	S5 compatible communication	2. 2 00 0. 0. 0
Setpoint for the CPU communication load Setpoint for the CPU communication load Number of remote interconnection partners 100 Italian data length of all incoming master/device connections data length of all incoming master/device connections, max. data length of all outgoing master/device connections, max.  Industry of device-internal and PROFIBUS Interconnections Data length of device-internal und PROFIBUS Interconnections, max.  Data length of device-internal and PROFIBUS Interconnections, max.  Data length of device-internal interconnection with acyclic transfer / header  — Sampling interval, min.  Number of incoming interconnections Data length of all outgoing interconnections, max.  Data length per connection, max.  Data length of all outgoing interconnections, max.  Data length per connection, max.  Data length per connection, max.  About the connection of all outgoing interconnections of all outgoing interconnections, max.  Data length of all outgoing interconnections outlet output the connection of all outgoing interconnections output the connection of all outgoing interconnections  Number of incoming interconnections  Number of incoming interconnections  Number of incoming interconnections  Number of outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Data leng	·	Yes; via CP and loadable FC
Setpoint for the CPU communication load Number of remote interconnection partners Inumber of master/device functions total of all master/device connections data length of all incoming master/device connections, max. data length of all outgoing master/device connections, max.  Number of device-internal and PROFIBUS interconnections Interconnections Data length of device-internal und PROFIBUS interconnections, max.  Data length of device-internal und PROFIBUS interconnections, max.  Data length of device-internal und PROFIBUS interconnections, max.  Data length per connection, max.  Data length per formance data / PROFINET CBA / remote interconnection / with acyclic transfer / header  Sampling interval, min. Number of outgoing interconnections Data length of all incoming interconnections, max. Data length of all incoming interconnections, max. Data length of all incoming interconnections, max. Data length of all incoming interconnection, with cyclic transfer / header  - Transmission frequency: Transmission interval, min. Number of incoming interconnections Number of outgoing interconnections, max. A 800 byte Data length of all outgoing interconnections, max. A 800 byte  Data length per connection, max.  A 800 byte  Performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  Number of stations that can log on for HMI variables (PN OPC//lka) HMI variable updating		
Number of remote interconnection partners Inumber of master/device functions Inumber of master/device connections Inumber of all start of all incoming master/device connections, max.  Inumber of all incoming master/device connections, max.  Inumber of device-internal and PROFIBUS Interconnections Interconnecti		
• number of master/device functions     • total of all master/device connections     • data length of all incoming master/device connections, max.  • data length of all outgoing master/device connections, max.  • Alumber of device-internal and PROFIBUS interconnections  • Data length of device-internal und PROFIBUS interconnections, max.  • Data length per connection, max.  • Data length interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length of all outgoing interconnection / with overlice transfer / header  — Transmission frequency: Transmission interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  4 800 byte  — Data length of all incoming interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length per connection, max.  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length per connection, max.  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length per connection, max.  — Data length of stations that can log on for HMI variables in PROFINET / acyclic / header  — Number of stations that can log on for HMI variables in PROFINET / acyclic / header  — Number of stations that can log on for HMI variables in PROFINET / acyclic / header  — Number of stations that can log on for HMI variables in PROFINET / acyclic / header	•	
total of all master/device connections     data length of all incoming master/device connections, max.     data length of all outgoing master/device connections, max.     Alta length of all outgoing master/device connections, max.     Number of device-internal and PROFIBUS interconnections     Data length of device-internal und PROFIBUS interconnections, max.     Data length per connection, max.     Data length per connection, max.     Data length per connection, max.     Performance data / PROFINET CBA / remote interconnection / with acyclic transfer / header      Sampling interval, min.     Number of incoming interconnections     Number of outgoing interconnections     Number of outgoing interconnections, max.     Data length of all outgoing interconnections, max.     Data length of all outgoing interconnection, max.     Data length of PROFINET CBA / remote interconnection / with cyclic transfer / header      Transmission frequency: Transmission interval, min.     Number of incoming interconnections     300      Number of outgoing interconnections     300      Data length of all incoming interconnections, max.     Also byte  Data length of all outgoing interconnections, max.     Also byte  performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  Number of stations that can log on for HMI variables (PN OPC/IMap)  HMI variable updating      Soon ms	· · · · · · · · · · · · · · · · · · ·	
<ul> <li>• data length of all incoming master/device connections, max.</li> <li>• data length of all outgoing master/device connections, max.</li> <li>• Number of device-internal and PROFIBUS interconnections</li> <li>• Data length of device-internal und PROFIBUS interconnections, max.</li> <li>• Data length of device-internal und PROFIBUS interconnections, max.</li> <li>• Data length per connection, max.</li> <li>• Data length per connection, max.</li> <li>• Data length of all incoming interconnections</li> <li>• Number of incoming interconnections</li> <li>• Number of outgoing interconnections, max.</li> <li>• Data length of all incoming interconnections, max.</li> <li>• Data length of all outgoing interconnections, max.</li> <li>• Data length of PROFINET CBA / remote interconnection / with cyclic transfer / header</li> <li>• Transmission frequency: Transmission interval, min.</li> <li>• Number of outgoing interconnections</li> <li>• Number of incoming interconnections</li> <li>• Data length of all incoming interconnections, max.</li> <li>• Data length of all incomnections</li> <li>• Data length of all incomnections, max.</li> <li>• Data length of all incomning interconnections, max.</li> <li>• Data length of all incomning interconnections, max.</li> <li>• Data length of all outgoing interconnections, max.</li> <li>• Data length of stations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>• Number of stations that can log on for HMI variables (PN OPC//Map)</li> <li>• HMI variable updating</li> <li>• Do byte</li> </ul>		
<ul> <li>data length of all outgoing master/device connections, max.</li> <li>Number of device-internal and PROFIBUS interconnections</li> <li>Data length of device-internal und PROFIBUS interconnections, max.</li> <li>Data length per connection, max.</li> <li>Potal length per connection, max.</li> <li>PROFINET CBA / remote interconnection / with acyclic transfer / header</li> <li>— Sampling interval, min.</li> <li>— Number of incoming interconnections</li> <li>— Number of outgoing interconnections</li> <li>— Data length of all incoming interconnections, max.</li> <li>— Data length of all outgoing interconnections, max.</li> <li>— Data length of all outgoing interconnections, max.</li> <li>— Data length of all outgoing interconnection / with cyclic transfer / header</li> <li>— Transmission frequency: Transmission interval, min.</li> <li>— Number of incoming interconnections</li> <li>— Number of incoming interconnections</li> <li>— Number of outgoing interconnections</li> <li>— Data length of all incoming interconnections, max.</li> <li>— Data length of all outgoing interconnections, max.</li> <li>— Aumber of stations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>— HMI variable updating</li> <li>500 ms</li> </ul>	• data length of all incoming master/device connections,	
Number of device-internal and PROFIBUS interconnections  Data length of device-internal und PROFIBUS interconnections, max.  Data length per connection, max.  1 400 byte performance data / PROFINET CBA / remote interconnection / with acyclic transfer / header  — Sampling interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length per connection, max.  — Data length per connection, max.  — Data length per connection, max.  — I 400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  — Transmission frequency: Transmission interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all incoming interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length per connection, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte  — Data length of all outgoing interconnections, max.  4 800 byte	data length of all outgoing master/device connections,	24 000 byte
<ul> <li>Data length of device-internal und PROFIBUS interconnections, max.</li> <li>Data length per connection, max.</li> <li>1 400 byte</li> <li>performance data / PROFINET CBA / remote interconnection / with acyclic transfer / header</li> <li>— Sampling interval, min.</li> <li>— Number of incoming interconnections</li> <li>— Number of outgoing interconnections</li> <li>— Data length of all incoming interconnections, max.</li> <li>— Data length of all outgoing interconnections, max.</li> <li>— Data length per connection, max.</li> <li>— Number of incoming interconnections</li> <li>— Number of outgoing interconnections</li> <li>— Number of outgoing interconnections, max.</li> <li>— Data length of all incoming interconnections, max.</li> <li>— Data length of all outgoing interconnections, max.</li> <li>— Data length per connection, max.</li> <li>— Data length of all outgoing interconnections, max.</li> <li>— Also byte</li> <li>— Potal length per connection, max.</li> <li>— Number of stations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of stations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of stations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of stations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of viations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of viations that can log on for HMI variables via PROFINET / acyclic / header</li> <li>— Number of viations viations viations viations viations viations viations viations via</li></ul>	<ul> <li>Number of device-internal and PROFIBUS</li> </ul>	1 000
Data length per connection, max.  performance data / PROFINET CBA / remote interconnection / with acyclic transfer / header  Sampling interval, min.  Number of incoming interconnections  Number of outgoing interconnections  Data length of all incoming interconnections, max.  Data length of all outgoing interconnections, max.  Data length per connection, max.  Data length per connection, max.  Transmission frequency: Transmission interval, min.  Number of incoming interconnections  Number of outgoing interconnections  Number of outgoing interconnections  Data length of all incoming interconnections, max.  Data length of all incoming interconnections, max.  Data length of all outgoing interconnections, max.  A 800 byte  Data length of all outgoing interconnections, max.  A 800 byte  Performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  Number of stations that can log on for HMI variables (PN OPC/iMap)  HMI variable updating  500 ms	Data length of device-internal und PROFIBUS	8 000 byte
performance data / PROFINET CBA / remote interconnection / with acyclic transfer / header  — Sampling interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length per connection, max.  — Data length per connection, max.  — Data length per connection, max.  — Transmission frequency: Transmission interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length per connection, max.  — Syphological transfer / header  — Number of stations that can log on for HMI variables (PN OPC/1x iMap)  — HMI variable updating  500 ms		1.400 hyte
- Sampling interval, min Number of incoming interconnections - Number of outgoing interconnections - Data length of all incoming interconnections, max Data length of all outgoing interconnections, max Data length per connection, max Data length per connection, max Data length per connection, max Data length per connection / with cyclic transfer / header - Transmission frequency: Transmission interval, min Number of incoming interconnections - Number of outgoing interconnections - Data length of all incoming interconnections, max Data length of all outgoing interconnections, max Data length per connection, max Sa 200 byte - Data length of all outgoing interconnections, max Data length of all outgoing interconnections, max A 800 byte - Data length per connection, max Sa 200 byte - Sa 200 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections, max A 800 byte - Data length of all outgoing interconnections Sa 200 byte - Data length of all outgoing interconnections S	,	·
- Number of incoming interconnections 100 - Number of outgoing interconnections 100 - Data length of all incoming interconnections, max. 3 200 byte - Data length of all outgoing interconnections, max. 1 400 byte - Data length per connection, max. 1 400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header - Transmission frequency: Transmission interval, min. 1 ms - Number of incoming interconnections 300 - Number of outgoing interconnections 300 - Number of outgoing interconnections, max. 4 800 byte - Data length of all outgoing interconnections, max. 4 800 byte - Data length per connection, max. 450 byte  performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header - Number of stations that can log on for HMI variables (PN OPC/IMap) - HMI variable updating 500 ms		
- Number of outgoing interconnections 100  - Data length of all incoming interconnections, max. 3 200 byte  - Data length of all outgoing interconnections, max. 3 200 byte  - Data length per connection, max. 1 400 byte  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  - Transmission frequency: Transmission interval, min. 1 ms  - Number of incoming interconnections 300  - Number of outgoing interconnections 300  - Data length of all incoming interconnections, max. 4 800 byte  - Data length of all outgoing interconnections, max. 4 800 byte  - Data length per connection, max. 450 byte  performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  - Number of stations that can log on for HMI variables (PN OPC/iMap)  - HMI variable updating 500 ms	• •	
<ul> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Transmission frequency: Transmission interval, min.</li> <li>Number of incoming interconnections</li> <li>Number of outgoing interconnections</li> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Sob byte</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>Sob byte</li> <li>Sob byte</li> <li>Sob byte</li> <li>Sob byte</li> <li>Sob ms</li> </ul>	3	
<ul> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>1 400 byte</li> <li>performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header</li> <li>Transmission frequency: Transmission interval, min.</li> <li>Number of incoming interconnections</li> <li>Number of outgoing interconnections</li> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>HMI variable updating</li> <li>500 ms</li> </ul>		
— Data length per connection, max.  performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  — Transmission frequency: Transmission interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length per connection, max.  — Data length per connection, max.  4800 byte  — Data length per connection, max.  450 byte  performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  — Number of stations that can log on for HMI variables (PN OPC/iMap)  — HMI variable updating  500 ms	-	
performance data / PROFINET CBA / remote interconnection / with cyclic transfer / header  — Transmission frequency: Transmission interval, min.  — Number of incoming interconnections  — Number of outgoing interconnections  — Data length of all incoming interconnections, max.  — Data length of all outgoing interconnections, max.  — Data length per connection, max.  — Data length per connection, max.  4800 byte  performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  — Number of stations that can log on for HMI variables (PN OPC/iMap)  — HMI variable updating  500 ms		
<ul> <li>Transmission frequency: Transmission interval, min.</li> <li>Number of incoming interconnections</li> <li>Number of outgoing interconnections</li> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>Post length per connection, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>4800 byte</li> <li>Data length per connection, max.</li> <li>450 byte</li> <li>Performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>HMI variable updating</li> <li>500 ms</li> </ul>		·
<ul> <li>Number of incoming interconnections</li> <li>Number of outgoing interconnections</li> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>Performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>HMI variable updating</li> <li>500 ms</li> </ul>	·	
<ul> <li>Number of outgoing interconnections</li> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>4800 byte</li> <li>450 byte</li> <li>performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>HMI variable updating</li> <li>500 ms</li> </ul>	• • •	
<ul> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> <li>Data length per connection, max.</li> <li>Data length per connection, max.</li> <li>4800 byte</li> <li>450 byte</li> <li>performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>HMI variable updating</li> <li>3; 2x PN OPC/1x iMap</li> <li>500 ms</li> </ul>	-	
<ul> <li>— Data length of all outgoing interconnections, max.</li> <li>— Data length per connection, max.</li> <li>4 800 byte</li> <li>450 byte</li> <li>performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>— Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>— HMI variable updating</li> <li>500 ms</li> </ul>		
<ul> <li>— Data length per connection, max.</li> <li>450 byte</li> <li>performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header</li> <li>— Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>— HMI variable updating</li> <li>500 ms</li> </ul>		
performance data / PROFINET CBA / HMI variables via PROFINET / acyclic / header  — Number of stations that can log on for HMI variables (PN OPC/iMap)  — HMI variable updating  500 ms		
<ul> <li>— Number of stations that can log on for HMI variables (PN OPC/iMap)</li> <li>— HMI variable updating</li> <li>3; 2x PN OPC/1x iMap</li> <li>500 ms</li> </ul>		•
(PN OPC/iMap)  — HMI variable updating 500 ms	·	
	(PN OPC/iMap)	
	<ul> <li>HMI variable updating</li> </ul>	500 ms
— Number of HMI variables 600	<ul> <li>Number of HMI variables</li> </ul>	600
— Data length of all HMI variables, max. 9 600 byte	— Data length of all HMI variables, max.	9 600 byte
performance data / PROFINET CBA / PROFIBUS proxy functionality / header	performance data / PROFINET CBA / PROFIBUS proxy function	onality / header
— supported Yes	— supported	Yes
— Number of linked PROFIBUS devices 32	<ul> <li>Number of linked PROFIBUS devices</li> </ul>	32
— Data length per connection, max. 240 byte; Slave-dependent	<ul> <li>Data length per connection, max.</li> </ul>	240 byte; Slave-dependent
Number of connections	Number of connections	
• overall 32	• overall	32

- unable for DC es	24
usable for PG communication	31
— reserved for PG communication	1
— adjustable for PG communication, min.	1
— adjustable for PG communication, max.	31
usable for OP communication	31
<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
<ul> <li>total number of instances, max.</li> </ul>	32
usable for routing	X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as DP master: max. 24; X2 as DP slave (active): max. 14; X3 as PROFINET: 48 max.
S7 message functions	
Number of login stations for message functions, max.	32; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	Yes
simultaneously active Alarm_S blocks, max.	300
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
Status/control variable	Yes
<ul> <li>Variables</li> </ul>	Inputs, outputs, memory bits, DB, times, counters
<ul> <li>Number of variables, max.</li> </ul>	30
— of which status variables, max.	30
<ul> <li>of which control variables, max.</li> </ul>	14
Forcing	
• 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
Number of entries readable in RUN, max.	499
<ul> <li>number of entities readable in Roin, max.</li> <li>adjustable</li> </ul>	Yes; From 10 to 499
— aujustable — preset	10
— preset  Service data	10
• can be read out	Yes
Ambient conditions	100
Ambient temperature during operation	0°C
• min.	0 °C
• max.	60 °C
configuration / header	
Configuration software	V V5 5 111
• STEP 7	Yes; V5.5 or higher
configuration / programming / header	
<ul> <li>Command set</li> </ul>	see instruction list
Nesting levels	8

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
<ul> <li>Block encryption</li> </ul>	Yes; With S7 block Privacy
Dimensions	
Width	120 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	1 250 g
Classifications	

	Version	Classification
eClass	14	27-24-22-07
eClass	12	27-24-22-07
eClass	9.1	27-24-22-07
eClass	9	27-24-22-07
eClass	8	27-24-22-07
eClass	7.1	27-24-22-07
eClass	6	27-24-22-07
ETIM	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

## Approvals / Certificates

## **General Product Approval**

Manufacturer Declara-<u>tion</u>





**Miscellaneous** 



Miscellaneous

General Product Approval

EMV

For use in hazardous locations







<u>FM</u>





For use in hazardous locations

**Functional Saftey** 

Marine / Shipping



Miscellaneous

CCC-Ex



Type Examination Cer**tificate** 



Marine / Shipping







## NK / Nippon Kaiji Ky-okai





Marine / Shipping	other	Industrial Communication			
CCS (China Classification Society)	PROFINET	Profibus	Profibus	PROFINET	
last modified:		4/7/2	025 🗗		