## **SIEMENS**

## Data sheet

## 6ES7416-2FN05-0AB0

SIMATIC S7-400, CPU 416F-2, Central processing unit with: Work memory 5.6 MB, (2.8 MB code, 2.8 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP, Can be used with software package Distributed Safety as of V5.2+SP2



Figure similar

General information	
Product type designation	CPU 416F-2
HW functional status	03
Firmware version	V5.3
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V5.3 SP2 or higher with hardware update, Distributed Safety V5.2 SP2 or higher
CiR – Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	10 µs
Supply voltage	
Rated value (DC)	
• 24 V DC	No; Power supply via system power supply
Input current	
from backplane bus 5 V DC, typ.	0.9 A
from backplane bus 5 V DC, max.	1.1 A

from backplane bus 24 V DC, max.	300 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	4.5 W
Power loss, max.	5 W
Memory	
Type of memory	other
Work memory	
• integrated	5.6 Mbyte
• integrated (for program)	2.8 Mbyte
• integrated (for data)	2.8 Mbyte
• expandable	No
Load memory	
expandable FEPROM	Yes; with Memory Card (FLASH)
• expandable FEPROM, max.	64 Mbyte
• integrated RAM, max.	1 Mbyte
expandable RAM	Yes; with Memory Card (RAM)
• expandable RAM, max.	64 Mbyte
Backup	· ·
• present	Yes
• with battery	Yes; all data
• without battery	No
Battery	
Backup battery	
<ul> <li>Backup current, typ.</li> </ul>	125 μA; up to 40 °C
• Backup current, max.	550 μΑ
<ul> <li>Backup time, max.</li> </ul>	See reference manual, module data, Chapter 3.3
<ul> <li>Feeding of external backup voltage to CPU</li> </ul>	5 V DC to 15 V DC
CPU processing times	
for bit operations, typ.	30 ns
for word operations, typ.	30 ns
for fixed point arithmetic, typ.	30 ns
for floating point arithmetic, typ.	90 ns
CPU-blocks	
DB	
• Number, max.	10 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
• Number, max.	5 000; Number range: 0 to 7999
● Size, max.	64 kbyte

FC	
<ul> <li>Number, max.</li> </ul>	5 000; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Number, max.	see instruction list
• 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>	8; OB 10-17
<ul> <li>Number of delay alarm OBs</li> </ul>	4; OB 20-23
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	9; OB 30-38 (shortest cycle that can be set = 500 $\mu$ s)
<ul> <li>Number of process alarm OBs</li> </ul>	8; OB 40-47
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55-57
<ul> <li>Number of isochronous mode OBs</li> </ul>	4; OB 61-64
<ul> <li>Number of multicomputing OBs</li> </ul>	1; OB 60
<ul> <li>Number of background OBs</li> </ul>	1; OB 90
<ul> <li>Number of startup OBs</li> </ul>	2; OB 100, 102
<ul> <li>Number of asynchronous error OBs</li> </ul>	9; OB 80-88
<ul> <li>Number of synchronous error OBs</li> </ul>	2; OB 121, 122
Nesting depth	
<ul> <li>per priority class</li> </ul>	24
<ul> <li>additional within an error OB</li> </ul>	2
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Туре	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
	0

— upper limit	2 047
— preset	No times retentive
Time range	
— lower limit	10 ms
	9 990 s
— upper limit IEC timer	3 330 3
	Yes
• present	SFB
• Type	
• Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
retentive data area in total	Total working and load memory (with backup battery)
Flag	
• Number, max.	16 kbyte; Size of bit memory address area
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; in 1 memory byte
Local data	
• adjustable, max.	32 kbyte
• preset	16 kbyte
Address area	
I/O address area	
Inputs	16 kbyte
Outputs	16 kbyte
Process image	
<ul> <li>Inputs, adjustable</li> </ul>	16 kbyte
<ul> <li>Outputs, adjustable</li> </ul>	16 kbyte
Inputs, default	512 byte
Outputs, default	512 byte
• consistent data, max.	244 byte
<ul> <li>Access to consistent data in process image</li> </ul>	Yes
Subprocess images	
<ul> <li>Number of subprocess images, max.</li> </ul>	15
Digital channels	
Inputs	131 072
— of which central	131 072
Outputs	131 072
— of which central	131 072
Analog channels	
• Inputs	8 192
— of which central	8 192
Outputs	8 192
— of which central	8 192

Hardware configuration	
Number of expansion units, max.	21
connectable OPs	63
Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Interface modules	
<ul> <li>Number of connectable IMs (total), max.</li> </ul>	6
<ul> <li>Number of connectable IM 460s, max.</li> </ul>	6
<ul> <li>Number of connectable IM 463s, max.</li> </ul>	4; IM 463-2
Number of DP masters	
integrated	2
• via CP	10; CP 443-5 Extended
● via IM 467	4
<ul> <li>Mixed mode IM + CP permitted</li> </ul>	No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)
• via interface module	0
<ul> <li>Number of pluggable S5 modules (via adapter capsule in central device), max.</li> </ul>	6
Number of IO Controllers	
• integrated	0
• via CP	4; No mixed operation of CP443-1 EX40 and CP443-1 EX 41/EX20/GX20, max. 4 in central controller
Number of operable FMs and CPs (recommended)	
• FM	Limited by number of slots and number of connections
• CP, PtP	CP 440: Limited by number of slots; CP 441: limited by number of connections
<ul> <li>PROFIBUS and Ethernet CPs</li> </ul>	14; Of which 10 CPs max. or IMs as DP master, 4 PROFINET controller maximum
Slots	
required slots	1
Time of day	
Clock	
<ul> <li>Hardware clock (real-time)</li> </ul>	Yes
<ul> <li>retentive and synchronizable</li> </ul>	Yes
Resolution	1 ms
<ul> <li>Deviation per day (buffered), max.</li> </ul>	1.7 s; Power off
<ul> <li>Deviation per day (unbuffered), max.</li> </ul>	8.6 s; For power On
Operating hours counter	
• Number	16
Number/Number range	0 to 15
Range of values	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
• Granularity	1 h
• retentive	Yes

Clock synchronization	
• supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• in AS, master	Yes
• in AS, slave	Yes
• to IF 964 DP	No
Time difference in system when synchronizing v	<i>v</i> ia
• MPI, max.	200 ms

## Interfaces

2; Combined MPI / PROFIBUS DP and PROFIBUS DP

1. Interface	
Interface type	Integrated
Physics	RS 485 / PROFIBUS + MPI
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	150 mA
Number of connection resources	MPI: 44, DP: 32
Protocols	
• MPI	Yes
<ul> <li>PROFIBUS DP master</li> </ul>	Yes
PROFIBUS DP slave	Yes
MPI	
<ul> <li>Number of connections</li> </ul>	44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
<ul> <li>Transmission rate, max.</li> </ul>	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	Yes
— S7 communication, as server	Yes
PROFIBUS DP master	
<ul> <li>Number of connections, max.</li> </ul>	32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
• Transmission rate, max.	12 Mbit/s
<ul> <li>Number of DP slaves, max.</li> </ul>	32
Services	
— PG/OP communication	Yes
— Routing	Yes; S7 routing

− Global data communication     No       − S7 basic communication     Yes       − S7 communication, as client     Yes       − S7 communication, as client     Yes       − S7 communication, as server     Yes       − S7 communication, as server     Yes       − S7 communication, as server     Yes       − Equidistance     Yes       − SYNC/FREEZE     Yes       − Activation/deactivation of DP slaves     Yes       − Direct data exchange (slav-to-slave (communication))     Person       − Inputs, max.     2 kbyte       − User data per DP slave, max.     2 kbyte       − User data per DP slave, max.     244 byte       − User data per DP slave, max.     244 byte       − Inputs, max.     244 byte       − Stots, max.     244 byte       − Stots, max.     244 byte       − Stots, max.     22 byte       PROFIBUS DP slave     So       Procetions     32       • Subs rear, max.     12 Mbit/s       • automatic baud rate search     No       • Address area, max.     32 byte       • Order port automatic slones:     So       • Order port automatic baud rate search     No       • Address area, max.     32 byte       • Order port automatication     No       • Address are	S7 basic communicationYes- S7 communication, as clientYes- S7 communication, as clientYes- S7 communication, as serverYes- EquidistanceYes- EquidistanceYes- Isochronous modeYes- Isochronous modeYes- SYNC/FREEZEYes- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- Direct data exchange (slave-to-slave communication)Yes- User data per DP slaveZ kbyte- Outputs, max.2 kbyte- Outputs, max.244 byte- Outputs, max.244 byte- Outputs, max.244 byte- Slots, max.22 bytePROFIBUS DP slave12 Mbit/s- of domenctions32- Fransmission rate, max.32 byte- Outputs area, max.32 byte- of which consistent, max.32 byte- PGOP communicationYes; with interface active- of which consistent, max.32 byte- PGOP communicationYes; with interface active- S7 routingYes; with interface active- S7 routingYes; with interface active- S7 routingYes; with interface active- S7 routing<	Clobal data communication	No
- S7 communication, as server       Yes         - Equidistance       Yes         - Equidistance       Yes         - Isochronous mode       Yes         - Isochronous mode       Yes         - Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Yes         - DPV1       Yes         Address area       2 kbyte         - User data per DP slave, max.       2 kbyte         - User data per DP slave, max.       244 byte         - Outputs, max.       244 byte         - Outputs, max.       244 byte         - Slots, max.       24 byte         - Slots, max.       22 byte         • Womber of connections       32         • CSD file       No         • Address area, max.       32 byte         - of which consistent, max.       32 byte         Services       - of which consistent, max. </th <th></th> <th></th> <th></th>			
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User data per DP slave, max.244 byte Inputs, max.244 byte Outputs, max.244 Slots, max.244 per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32 byte- of which consistent, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- S7 basic communicationNo- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	User data per DP slave, max.244 byte Inputs, max.244 byte Outputs, max.244 byte Slots, max.244 per slot, max.128 bytePROFIBUS DP slave128 byte• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	— Outputs, max.	2 kbyte
- Inputs, max.244 byte- Outputs, max.244- Slots, max.244- per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte• DifferenceVers; with interface active- S7 routingYes; with interface active- S7 routingNo- S7 basic communicationNo- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	- Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244- per slot, max.244- per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	User data per DP slave	
- Outputs, max.244- Slots, max.244- per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- S7 basic communicationNo- S7 basic communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	- Outputs, max.244 byte- Slots, max.244- per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	— User data per DP slave, max.	244 byte
Slots, max.244 per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- S7 basic communicationNo- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	Slots, max.244 per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	— Inputs, max.	244 byte
per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- S7 basic communicationNo- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	— Outputs, max.	244 byte
PROFIBUS DP slave       32         • Number of connections       32         • GSD file       http://support.automation.siemens.com/WW/view/en/113652         • Transmission rate, max.       12 Mbit/s         • automatic baud rate search       No         • Address area, max.       32; Virtual slots         • User data per address area, max.       32 byte         - of which consistent, max.       32 byte         Services       -         - PG/OP communication       Yes; with interface active         - S7 routing       Yes; with interface active         - S7 basic communication       No         - S7 communication       Yes         - S7 communication, as client       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - Direct data exchange (slave-to-slave communication)       No	PROFIBUS DP slave• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• Address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	— Slots, max.	244
• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte— of which consistent, max.32 byteServices-— PG/OP communicationYes; with interface active— S7 routingYes; with interface active— Global data communicationNo— S7 communicationYes— S7 communicationYes— S7 communication, as clientYes— S7 communication, as serverYes— Direct data exchange (slave-to-slave communication)No	• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• Address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	— per slot, max.	128 byte
• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	PROFIBUS DP slave	
• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServicesServices- PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No- Direct data exchange	• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices32 byte- PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo	<ul> <li>Number of connections</li> </ul>	32
• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byteServices32 byte- PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	<ul> <li>automatic baud rate search</li> <li>Address area, max.</li> <li>User data per address area, max.</li> <li>of which consistent, max.</li> <li>Services</li> <li>PG/OP communication</li> <li>S7 routing</li> <li>Global data communication</li> <li>No</li> </ul>	• GSD file	http://support.automation.siemens.com/WW/view/en/113652
<ul> <li>Address area, max.</li> <li>32; Virtual slots</li> <li>User data per address area, max.</li> <li>32 byte</li> <li>of which consistent, max.</li> <li>32 byte</li> <li>Services</li> <li>PG/OP communication</li> <li>S7 routing</li> <li>Yes; with interface active</li> <li>Global data communication</li> <li>S7 basic communication</li> <li>S7 communication</li> <li>S7 communication</li> <li>S7 communication, as client</li> <li>S7 communication, as server</li> <li>S7 communication, as server</li> <li>S7 communication, as server</li> <li>S7 communication, as server</li> <li>No</li> <li>S7 communication, as server</li> <li>S7 communication, as server</li> <li>S7 communication, as server</li> </ul>	<ul> <li>Address area, max.</li> <li>User data per address area, max.</li> <li>Of which consistent, max.</li> <li>Services</li> <li>PG/OP communication</li> <li>S7 routing</li> <li>Global data communication</li> <li>No</li> </ul>	<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
• User data per address area, max.32 byte- of which consistent, max.32 byteServices7- PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communicationYes- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	• User data per address area, max.       32 byte         — of which consistent, max.       32 byte         Services       32 byte         — PG/OP communication       Yes; with interface active         — S7 routing       Yes; with interface active         — Global data communication       No	<ul> <li>automatic baud rate search</li> </ul>	No
- of which consistent, max.32 byteServices PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	- of which consistent, max.     32 byte       Services     -       - PG/OP communication     Yes; with interface active       - S7 routing     Yes; with interface active       - Global data communication     No	<ul> <li>Address area, max.</li> </ul>	32; Virtual slots
Services         - PG/OP communication       Yes; with interface active         - S7 routing       Yes; with interface active         - Global data communication       No         - S7 basic communication       No         - S7 communication       Yes         - S7 communication       Yes         - S7 communication, as client       Yes         - S7 communication, as client       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - Direct data exchange (slave-to-slave communication)       No	Services       — PG/OP communication     Yes; with interface active       — S7 routing     Yes; with interface active       — Global data communication     No	<ul> <li>User data per address area, max.</li> </ul>	32 byte
PG/OP communicationYes; with interface active- S7 routingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	— PG/OP communicationYes; with interface active— S7 routingYes; with interface active— Global data communicationNo	— of which consistent, max.	32 byte
- S7 routingYes; with interface active- Global data communicationNo- S7 basic communicationNo- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	— S7 routing     Yes; with interface active       — Global data communication     No	Services	
- Global data communicationNo- S7 basic communicationNo- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- Direct data exchange (slave-to-slave communication)No	— Global data communication No	— PG/OP communication	Yes; with interface active
S7 basic communicationNo S7 communicationYes S7 communication, as clientYes S7 communication, as serverYes Direct data exchange (slave-to-slave communication)No		— S7 routing	Yes; with interface active
S7 communicationYes S7 communication, as clientYes S7 communication, as serverYes Direct data exchange (slave-to-slave communication)No	S7 hasis communication No	— Global data communication	No
S7 communication, as clientYes S7 communication, as serverYes Direct data exchange (slave-to-slave communication)No		— S7 basic communication	No
— S7 communication, as server     Yes       — Direct data exchange (slave-to-slave communication)     No	— S7 communication Yes	— S7 communication	Yes
— Direct data exchange (slave-to-slave No communication)	- S7 communication, as client Yes	— S7 communication, as client	Yes
communication)	- S7 communication, as server Yes	— S7 communication, as server	Yes
— DPV1 No			No
	— DPV1 No	— DPV1	No
Transfer memory	Transfer memory	Transfer memory	

- Outputs244 byteInterfaceIntegratedPhysicsRS 485 / PROFIBUSIsolatedYesPower supply to interface (15 to 30 V DC), max.150 mANumber of connection resources32Protocols*********************************	— Inputs	244 byte
2         Interface           Interface type         Integrated           Physics         RS 486 / PROFIBUS           Isolated         Yes           Power supply to interface (15 to 30 V DC), max.         150 mA           Number of connection resources         32           Protocols         -           • PROFIBUS DP master         Yes           • PROFIBUS DP master         Yes           • Number of connections, max.         32           • Transmission rate, max.         12 Mbil/s           • Number of DP slaves, max.         125           Services         -           - PG/OP communication         Yes           - Routing         Yes; S7 routing           - Global data communication         No           - S7 communication         Yes           - S7 communication         Yes           - S7 communication, as client         Yes           - S7 communication, as server         Yes           - S7 communication, as server         Yes           - SYNOF/REEZE         Yes           - Activation/deactivation of DP slaves         Yes           - Direct data exchange (slave-to-slave communication)         Yes           - Direct data exchange (slave-to-slave communication)		244 byte
Interface type         Integrated           Physics         RS 485 / PROFIBUS           Isolated         Yes           Power supply to interface (15 to 30 V DC), max.         150 mA           Number of connection resources         32           Protocols         •           • PROFIBUS DP master         Yes           • PROFIBUS DP master         Yes           • Number of connections, max.         32           • Transmission rate, max.         12 Mbit/s           • Number of DP slaves, max.         12 Mbit/s           • Number of DP slaves, max.         12 Mbit/s           Services         -           - PG/OP communication         Yes           - Routing         Yes, S7 routing           - Global data communication         Yes           - S7 communication         Yes           - S7 communication         Yes           - S7 communication, as server         Yes           - S7 communication of DP slaves         Yes           - S7 communication of DP slaves         Yes           - SYNC/FREEZE         Yes           - Direct data exchange (slave-to-slave communication)         Yes           - Divet data per DP slave         Yes           - User data per DP slave, max.		
Physics       RS 485 / PROFIBUS         Isolated       Yes         Power supply to interface (15 to 30 V DC), max.       160 mA         Number of connection resources       32         Protocols       Yes         • PROFIBUS DP master       Yes         • PROFIBUS DP master       Yes         • Number of connections, max.       32         • Number of connections, max.       12 Mbit/s         • Number of DP slaves, max.       125         Services       -         - Rolling       Yes; S7 routing         - Global data communication       Yes         - S7 basic communication       Yes         - S7 communication as server       Yes         - S7 communication fDP slaves       Yes         - Direct data exchange (slave-to-slave communication imunication imunication imunication imunication imunication imunicat		Integrated
Isolated     Yes       Power supply to interface (15 to 30 V DC), max.     150 mA       Number of connection resources     32       PROFIBUS DP master     Yes       • PROFIBUS DP slave     Yes       PROFIBUS DP master     Yes       • PROFIBUS DP master     Yes       • Number of connections, max.     32       • Transmission rate, max.     12 Mbit/s       • Number of DP slaves, max.     12 Mbit/s       • PROFIBUS OP master     Yes       • PROFIBUS optimum continuitation     Yes       - PCI/OP communication     Yes       - Routing     Yes; S7 routing       - Global data communication     Yes       - S7 communication     Yes       - S7 communication, as client     Yes       - SYNC/FREEZE     Yes       - Addivation/deactivation of DP slaves     Yes       - Direct data exchange (slave-to-slave     Yes       - Direct data exchange (slave-to-slave     Yes       - Direct data per DP slave     Xes       - User data per DP slave     244 byte       - User data per DP slave, max.     244 byte		
Power supply to interface (15 to 30 V DC), max.     150 mA       Number of connection resources     32       Protocols		
Number of connection resources         32           Protocols         Yes           PROFIBUS DP master         Yes           PROFIBUS DP master         Yes           PROFIBUS DP master         Yes           PROFIBUS DP master         32           • Number of connections, max.         32           • Transmission rate, max.         12 Mbil/s           • Number of DP slaves, max.         12 Mbil/s           • Number of DP slaves, max.         12 Mbil/s           - Fol/OP communication         Yes           - Routing         Yes; S7 routing           - Global data communication         No           - S7 basic communication         Yes           - S7 communication, as client         Yes           - S7 communication, as server         Yes           - Equidistance         Yes           - S7 communication of DP slaves         Yes           - S0 NO/FREEZE         Yes           - Dire/1 dat exchange (slave-to-slave communication)         Yes           - User data per DP slave, max.		
• PROFIBUS DP masterYes• PROFIBUS DP slaveYesPROFIBUS DP master32• Number of connections, max.32• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.125Services PG/OP communicationYes- RoutingYes; S7 routing- Global data communicationNo- S7 basic communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication ondeYes- S7 communication ondeYes- S7 communication ondeYes- Direct data exchange (slave-to-slave communication)Yes- DIrect data exchange (slave-to-slave communication)Yes- DIrect data per DP slaveYes- User data per DP slave, max.244 byte- User data per DP slave, max.244 byte- Cutputs, max.244 byte- Stots, max.244 byte- Stots, max.244 byte- Stots, max.244- per slot, max.128 byte		
PROFIBUS DP save       Yes         PROFIBUS DP master       32         • Number of connections, max.       32         • Transmission rate, max.       12 Mbit/s         • Number of DP slaves, max.       125         Services       -         - PG/OP communication       Yes         - Routing       Yes; S7 routing         - Global data communication       No         - S7 basic communication       Yes         - S7 communication       Yes         - S7 communication, as client       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - S7 communication of DP slaves       Yes         - Sr communication of DP slaves       Yes         - SYNC/FREEZE       Yes         - DFV1       Yes         - DFV1       Yes         Address area       8 kbyte         - Inputs, max.       8 kbyte         - Outputs, max.       244 byte         - User data per DP slave, max.       244 byte         - Stots, max.       244         - Stots, max.       128 byte		
PROFIBUS DP master         • Number of connections, max.       32         • Transmission rate, max.       12 Mbit/s         • Number of DP slaves, max.       125         Services       -         - PG/OP communication       Yes         - Routing       Yes; S7 routing         - Global data communication       No         - S7 basic communication       Yes         - S7 communication       Yes         - S7 communication       Yes         - S7 communication, as client       Yes         - S7 communication, as server       Yes         - S7 NC/FREEZE       Yes         - Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Tes         - DPV1       Yes         - Inputs, max.       8 kbyte         - User data per DP slave       244 byte         - User data per DP slave, max.       244 byte         - User data per DP slave, max.       244 byte         - Slots, max.       244 byte         - Slots, max.       244 byte	PROFIBUS DP master	Yes
• Number of connections, max.32• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.125Services PG/OP communicationYes- RoutingYes; S7 routing- Global data communicationNo- S7 basic communicationYes- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 ker/REEZEYes- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- DPV1Yes- User data per DP slave8 kbyte- User data per DP slave, max.244 byte- User data per DP slave, max.244 byte- Slots, max.244 by	PROFIBUS DP slave	Yes
• Transmission rate, max.12 Mbit/s• Number of DP slaves, max.125Services PG/OP communicationYes- RoutingYes; S7 routing- Global data communicationNo- S7 basic communicationYes- S7 communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- S7 communication, as serverYes- Stochronous modeYes- Isochronous modeYes- SYNC/FREEZEYes- Direct data exchange (slave-to-slave communication)Yes- DPV1YesAddress area8 kbyte- Usur data per DP slave244 byte- Usur data per DP slave, max.244 byte- Usur data per DP slave, max.244 byte- Outputs, max.244 byte- Stots, max.244 byte- Slots, max.244- per slot, max.128 byte	PROFIBUS DP master	
• Number of DP slaves, max.         125           Services         -           - Routing         Yes; S7 routing           - Global data communication         No           - S7 basic communication         Yes           - S7 communication         Yes           - S7 communication         Yes           - S7 communication, as client         Yes           - S7 communication, as server         Yes           - S7 communication of DP slaves         Yes           - Isochronous mode         Yes           - SYNC/FREEZE         Yes           - Direct data exchange (slave-to-slave communication)         Yes           - Direct data exchange (slave-to-slave communication)         Yes           - DPV1         Yes           Address area         8 kbyte           - Usurd ata per DP slave, max.         8 kbyte           - Outputs, max.         244 byte           - Usurd ata per DP slave, max.         244 byte           - Uputs, max.         244           - Slots, max.         244           - per slot, max.         244 <td><ul> <li>Number of connections, max.</li> </ul></td> <td>32</td>	<ul> <li>Number of connections, max.</li> </ul>	32
Services         - PG/OP communication       Yes         - Routing       Yes; S7 routing         - Global data communication       No         - S7 basic communication       Yes         - S7 communication       Yes         - S7 communication, as client       Yes         - S7 communication, as client       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - S7 communication, as server       Yes         - S7 communication of DP slaves       Yes         - SYNC/FREEZE       Yes         - Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Yes         - DPV1       Yes         Address area       8 kbyte         - Outputs, max.       8 kbyte         - Outputs, max.       8 kbyte         - User data per DP slave, max.       244 byte         - Nutputs, max.       244 byte         - Slots, max.       244         - per slot, max.       244 byte         - per slot, max.       128 byte	<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
PG/OP communicationYesRoutingYes; S7 routingGlobal data communicationNoS7 basic communicationYesS7 communicationYesS7 communication, as clientYesS7 communication, as clientYesS7 communication, as serverYesEquidistanceYesIsochronous modeYesSYNC/FREEZEYesOutputs, nax.YesOutputs, max.8 kbyteOutputs, max.8 kbyteUser data per DP slave, max.244 byteOutputs, max.244 byteStos, max.244per slot, max.128 byte	<ul> <li>Number of DP slaves, max.</li> </ul>	125
RoutingYes; S7 routingGlobal data communicationNoS7 basic communicationYesS7 communicationYesS7 communication, as clientYesS7 communication, as serverYesS7 communication, as serverYesStrommunication, as serverYesSynC/FREEZEYesActivation/deactivation of DP slavesYesDirect data exchange (slave-to-slave communication)YesAddress areaYesImputs, max.8 kbyteOutputs, max.8 kbyteUser data per DP slave, max.244 byteImputs, max.244 byteStots, max.244Stots, max.244per slot, max.244per slot, max.128 byte	Services	
Global data communicationNo— S7 basic communicationYes— S7 communicationYes— S7 communication, as clientYes— S7 communication, as serverYes— EquidistanceYes— Isochronous modeYes— SYNC/FREEZEYes— Activation/deactivation of DP slavesYes— Direct data exchange (slave-to-slave communication)Yes— DPV1YesAddress area8 kbyte— Inputs, max.8 kbyte— Outputs, max.244 byte— User data per DP slave, max.244 byte— Outputs, max.244 byte— Slots, max.244— per slot, max.244— per slot, max.128 byte	— PG/OP communication	Yes
S7 basic communicationYes- S7 communicationYes- S7 communication, as clientYes- S7 communication, as serverYes- EquidistanceYes- Isochronous modeYes- SYNC/FREEZEYes- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- DPV1YesAddress area- Inputs, max.8 kbyte- Outputs, max.8 kbyte- User data per DP slave, max.244 byte- Inputs, max.244 byte- Slots, max.244- Slots, max.244- per slot, max.128 byte	— Routing	Yes; S7 routing
	— Global data communication	No
ST communication, as clientYes- S7 communication, as serverYes- EquidistanceYes- Isochronous modeYes- SYNC/FREEZEYes- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- DPV1YesAddress area8 kbyte- Outputs, max.8 kbyte- User data per DP slave, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Siots, max.244 byte </td <td>— S7 basic communication</td> <td>Yes</td>	— S7 basic communication	Yes
	— S7 communication	Yes
- Equidistance       Yes         - Isochronous mode       Yes         - SYNC/FREEZE       Yes         - Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Yes         - DPV1       Yes         Address area       8 kbyte         - Outputs, max.       8 kbyte         User data per DP slave       244 byte         - Inputs, max.       244 byte         - Slots, max.       244         - Slots, max.       244         - per slot, max.       244         - PROFIBUS DP slave       244	— S7 communication, as client	Yes
- Isochronous mode       Yes         - SYNC/FREZE       Yes         - Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Yes         - DPV1       Yes         Address area       8 kbyte         - Outputs, max.       8 kbyte         - Outputs, max.       8 kbyte         - User data per DP slave, max.       244 byte         - Inputs, max.       244 byte         - Slots, max.       244         - Slots, max.       244         - per slot, max.       244         - Slots, max.       244         - Slots, max.       244         - per slot, max.       128 byte	— S7 communication, as server	Yes
- SYNC/FREZE       Yes         - Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Yes         - DPV1       Yes         Address area       8 kbyte         - Outputs, max.       8 kbyte         - Outputs, max.       8 kbyte         - User data per DP slave, max.       244 byte         - Inputs, max.       244 byte         - Outputs, max.       244 byte         - Slots, max.       244 byte         - Slots, max.       128 byte	— Equidistance	Yes
- Activation/deactivation of DP slaves       Yes         - Direct data exchange (slave-to-slave communication)       Yes         - DPV1       Yes         Address area       Yes         - Inputs, max.       8 kbyte         - Outputs, max.       8 kbyte         - Outputs, max.       8 kbyte         - User data per DP slave, max.       244 byte         - Inputs, max.       244 byte         - Outputs, max.       244 byte         - Outputs, max.       244 byte         - Outputs, max.       244 byte         - Slots, max.       244 byte         - Slots, max.       244 byte         - per slot, max.       244 byte         - per slot, max.       244 byte	— Isochronous mode	Yes
- Direct data exchange (slave-to-slave communication)Yes- DPV1YesAddress area8 kbyte- Inputs, max.8 kbyte- Outputs, max.8 kbyte- Outputs, max.244 byte- Inputs, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244 byte- Slots, max.244 byte- PROFIBUS DP slave128 byte	— SYNC/FREEZE	Yes
communication)       Yes         — DPV1       Yes         Address area       8 kbyte         — Inputs, max.       8 kbyte         — Outputs, max.       8 kbyte         User data per DP slave       244 byte         — Inputs, max.       244 byte         — Inputs, max.       244 byte         — Outputs, max.       244 byte         — Outputs, max.       244 byte         — Outputs, max.       244 byte         — Slots, max.       244 byte         — per slot, max.       128 byte	— Activation/deactivation of DP slaves	Yes
- DPV1YesAddress area- Inputs, max.8 kbyte- Outputs, max.8 kbyteUser data per DP slave244 byte- User data per DP slave, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244 byte- Slots, max.244 byte- per slot, max.128 byte	— Direct data exchange (slave-to-slave	Yes
Address area- Inputs, max.8 kbyte- Outputs, max.8 kbyteUser data per DP slave244 byte- User data per DP slave, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Outputs, max.244 byte- Slots, max.244 byte- per slot, max.244- PROFIBUS DP slave128 byte	communication)	
Inputs, max.8 kbyte- Outputs, max.8 kbyteUser data per DP slave244 byte- User data per DP slave, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244 byte- per slot, max.244 byte- per slot, max.244 byte- PROFIBUS DP slave128 byte	— DPV1	Yes
- Outputs, max.8 kbyteUser data per DP slave- User data per DP slave, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Outputs, max.244 byte- Slots, max.244 byte- per slot, max.128 bytePROFIBUS DP slave	Address area	
User data per DP slave     244 byte       - User data per DP slave, max.     244 byte       - Inputs, max.     244 byte       - Outputs, max.     244 byte       - Slots, max.     244 byte       - per slot, max.     244       - per slot, max.     128 byte	— Inputs, max.	8 kbyte
User data per DP slave, max.244 byte Inputs, max.244 byte Outputs, max.244 byte Slots, max.244 per slot, max.128 bytePROFIBUS DP slave	— Outputs, max.	8 kbyte
- Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244- per slot, max.128 byte	User data per DP slave	
- Outputs, max.     244 byte       - Slots, max.     244       - per slot, max.     128 byte	— User data per DP slave, max.	244 byte
— Slots, max.     244       — per slot, max.     128 byte       PROFIBUS DP slave     128 byte	— Inputs, max.	244 byte
— per slot, max. 128 byte           PROFIBUS DP slave	— Outputs, max.	244 byte
PROFIBUS DP slave	— Slots, max.	244
	— per slot, max.	128 byte
Number of connections     32	PROFIBUS DP slave	
	Number of connections	32

• GSD file	http://support.automation.siemens.com/WW/view/en/113652
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
<ul> <li>Address area, max.</li> </ul>	32
<ul> <li>User data per address area, max.</li> </ul>	32 byte
— of which consistent, max.	32 byte
Services	
— Routing	Yes; with interface active
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
Protocols Open IE communication	
ISO-on-TCP (RFC1006)	Via CP 443-1 and loadable FB
, ,	1452 bytes via CP 443-1 Adv.
— Data length, max. Web server	
	No
• supported	
Isochronous mode	
Isochronous operation (application synchronized up	Yes; For PROFIBUS only
to terminal)	
Equidistance	Yes
Number of DP masters with isochronous mode	2
User data per isochronous slave, max.	244 byte
shortest clock pulse	1 ms; 0.5 ms without use of SFC 126, 127 32 ms
max. cycle	32 MS
Communication functions	
PG/OP communication	Yes
<ul> <li>Number of connectable OPs without message processing</li> </ul>	63
<ul> <li>Number of connectable OPs with message</li> </ul>	63; When using Alarm_S/SQ and Alarm_D/DQ
processing	
Data record routing	Yes
Global data communication	
● supported	Yes
<ul> <li>Number of GD loops, max.</li> </ul>	16
<ul> <li>Number of GD packets, transmitter, max.</li> </ul>	16
<ul> <li>Number of GD packets, receiver, max.</li> </ul>	32
<ul> <li>Size of GD packets, max.</li> </ul>	54 byte
<ul> <li>Size of GD packet (of which consistent), max.</li> </ul>	1 variable
S7 basic communication	
• supported	Yes
• User data per job, max.	76 byte

<ul> <li>User data per job (of which consistent), max.</li> </ul>	1 variable		
S7 communication			
• supported	Yes		
• as server	Yes		
• as client	Yes		
<ul> <li>User data per job, max.</li> </ul>	64 kbyte		
<ul> <li>User data per job (of which consistent), max.</li> </ul>	462 byte; 1 variable		
S5 compatible communication			
• supported	Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5		
<ul> <li>User data per job, max.</li> </ul>	8 kbyte		
<ul> <li>User data per job (of which consistent), max.</li> </ul>	240 byte		
<ul> <li>Number of simultaneous AG-SEND/AG-RECV orders per CPU, max.</li> </ul>	64/64		
Standard communication (FMS)			
• supported	Yes; Via CP and loadable FB		
Number of connections			
• overall	64		
<ul> <li>usable for PG communication</li> </ul>	63		
— reserved for PG communication	1		
— adjustable for PG communication, max.	0		
<ul> <li>usable for OP communication</li> </ul>	63		
— reserved for OP communication	1		
— adjustable for OP communication, max.	0		
<ul> <li>usable for S7 basic communication</li> </ul>	62		
- reserved for S7 basic communication	0		
<ul> <li>— adjustable for S7 basic communication, max.</li> </ul>	0		
<ul> <li>usable for S7 communication</li> </ul>	62		
— reserved for S7 communication	0		
— adjustable for S7 communication, max.	0		
<ul> <li>usable for routing</li> </ul>	31		
— reserved for routing	0		
— adjustable for routing, max.	0		
S7 message functions	S7 message functions		
Number of login stations for message functions, max.	63; Max. 63 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)		
Symbol-related messages	Yes		
SCAN procedure	Yes		
Program alarms	Yes		
Process diagnostic messages	Yes		

simultaneously active Alarm-S blocks, max.	1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks
Alarm 8-blocks	Yes
<ul> <li>Number of instances for alarm 8 and S7 communication blocks, max.</li> </ul>	4 000
• preset, max.	600
Process control messages	Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	32
Number of messages	
• overall, max.	1 024
• in 100 ms grid, max.	128
● in 500 ms grid, max.	512
• in 1000 ms grid, max.	1 024
Number of additional values	
• with 100 ms grid, max.	1
• with 500, 1000 ms grid, max.	10
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
<ul> <li>Status/control variable</li> </ul>	Yes; Up to 16 variable tables
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
<ul> <li>Number of variables, max.</li> </ul>	70; Status/control
Forcing	
• Forcing	Yes
<ul> <li>Forcing, variables</li> </ul>	Inputs, outputs, bit memories, peripheral inputs, peripheral outputs
<ul> <li>Number of variables, max.</li> </ul>	512
Diagnostic buffer	
• present	Yes
<ul> <li>Number of entries, max.</li> </ul>	3 200
— adjustable	Yes
— preset	120
Service data	
• can be read out	Yes
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes

FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	
• ATEX	ATEX II 3G Ex nA IIC T4 Gc
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	0°C
Configuration	
Configuration software	
• STEP 7	Yes
Programming	
<ul> <li>Command set</li> </ul>	see instruction list
<ul> <li>Nesting levels</li> </ul>	7
<ul> <li>Access to consistent data in process image</li> </ul>	Yes
<ul> <li>System functions (SFC)</li> </ul>	see instruction list
<ul> <li>System function blocks (SFB)</li> </ul>	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Number of simultaneously active SFCs	
- DPSYC_FR	2; SFC 11; per interface
— D_ACT_DP	8; SFC 12; per interface
- RD_REC	8; SFC 59; per interface
WR_REC	8; SFC 58; per interface
— WR_PARM	8; SFC 55; per interface
— PARM_MOD	1; SFC 57; per interface
WR_DPARM	2; SFC 56; per interface
— DPNRM_DG	8; SFC 13; per interface
- RDSYSST	8
- DP_TOPOL	1; SFC 103; per interface
Number of simultaneously active SFBs	
- RDREC	8; SFB 52; per interface, but not more than 32 across all external interfaces

— WRREC	8; SFB 53; per interface, but not more than 32 across all external interfaces
Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
Dimensions	
Width	25 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	700 g
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