## Data sheet

SIMATIC S7-400, CPU 414-3 Central processing unit with: Work memory 4 MB, (2 MB code, 2 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP, 3rd interface plug-in IFM module



General information	
Product type designation	CPU 414-3
HW functional status	01
Firmware version	V7.0
Product function	
• Isochronous mode	Yes; For PROFIBUS only
Engineering with	
Programming package	STEP 7 V5.4 or higher with HSP 261
CiR - Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	15 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.	1.1 A
from backplane bus 5 V DC, max.	1.3 A
from backplane bus 24 V DC, max.	450 mA; 150 mA per DP interface

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from interface 5 V DC may	00 mA. At each DD interfere
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	5.5 W
Power loss, max.	6.5 W
Memory	
Type of memory	RAM
Work memory	
• integrated	4 Mbyte
<ul><li>integrated (for program)</li></ul>	2 Mbyte
• integrated (for data)	2 Mbyte
• expandable	No
Load memory	
expandable FEPROM	Yes; with Memory Card (FLASH)
• expandable FEPROM, max.	64 Mbyte
• integrated RAM, max.	512 kbyte
expandable RAM	Yes; with Memory Card (RAM)
• expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
with battery	Yes; all data
<ul><li>without battery</li></ul>	No
Battery	
Backup battery	
Backup current, typ.	180 µA
Backup current, max.	850 µA
Backup time, max.	Dealt with in the module data manual with the secondary conditions and the factors of influence
<ul> <li>Feeding of external backup voltage to CPU</li> </ul>	5 V DC to 15 V DC
CPU processing times	10.75 pa
for bit operations, typ.  for word operations, typ.	18.75 ns 18.75 ns
for fixed point arithmetic, typ.	18.75 ns
for floating point arithmetic, typ.	37.5 ns
ior noating point antimietic, typ.	37.3118
CPU-blocks	
DB	
<ul><li>Number, max.</li></ul>	6 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
• Number, max.	3 000; Number range: 0 to 7999
• Size, max.	64 kbyte



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FC	
<ul><li>Number, max.</li></ul>	3 000; Number range: 0 to 7999
• Size, max.	64 kbyte
ОВ	
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>	4; OB 10-13
<ul> <li>Number of delay alarm OBs</li> </ul>	4; OB 20-23
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32-35 (shortest cycle that can be set = 500 μs)
<ul> <li>Number of process alarm OBs</li> </ul>	4; OB 40-43
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55-57
<ul> <li>Number of isochronous mode OBs</li> </ul>	3; OB 61-63
<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>	3; 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	
• per priority class	24
<ul> <li>additional within an error OB</li> </ul>	1

Counters, timers and their retentivity	
S7 counter	
<ul><li>Number</li></ul>	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
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0



— upper limit	2 047
— preset	No times retentive
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
• 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	
<ul><li>Number, max.</li></ul>	8 kbyte; Size of bit memory address area
<ul> <li>Retentivity available</li> </ul>	Yes
<ul> <li>Retentivity preset</li> </ul>	MB 0 to MB 15
<ul> <li>Number of clock memories</li> </ul>	8; in 1 memory byte
Local data	
• adjustable, max.	16 kbyte
• preset	8 kbyte
Address area	
I/O address area	
• Inputs	8 kbyte
<ul><li>Outputs</li></ul>	8 kbyte
Process image	
Inputs, adjustable	8 kbyte
<ul> <li>Outputs, adjustable</li> </ul>	8 kbyte
• Inputs, default	256 byte
Outputs, default	256 byte
• consistent data, max.	244 byte
Access to consistent data in process image	Yes
Subprocess images	
Number of subprocess images, max.	15
D: 11 1 1	

Digital channels
<ul><li>Inputs</li></ul>
— of which

65 536 65 536 ich central

65 536 Outputs 65 536

- of which central

Analog	channels

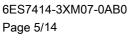
4 096 • Inputs 4 096 - of which central

Outputs



4 096

Number of expansion units, max.  connectable OPs 63  Multicomputing Yes; 4 CPUs max. (with UR1 or UR2)  Interface modules  • Number of connectable IMs (total), max. • Number of connectable IM 460s, max. • Number of connectable IM 460s, max. • Number of DP masters  • integrated • via CP • via IM 467 • Mixed mode IM + CP permitted • No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode  • via interface module • Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  • integrated • via CP 4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  • FM • CP, PtP • PROFIBUS and Ethernet CPs • In total max. 10 CPs as DP master and up to 4 CPs as PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller.	— of which central	4 096
Connectable OPS  Multicomputing  Yes; 4 CPUs max. (with UR1 or UR2)  Interface modules  Number of connectable IMs (total), max. Number of connectable IM 460s, max. Number of connectable IM 463s, max. Number of DP masters  integrated via CP via IM 467 Mixed mode IM + CP permitted No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode  via interface module Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  integrated via CP  CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  FM  CP, PtP  CP 440: Limited by number of slots; CP 441: limited by number of connections CP, PtP  PROFIBUS and Ethernet CPs  It in total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as PROFINET controller	Hardware configuration	
Interface modules  • Number of connectable IMs (total), max. • Number of connectable IM 460s, max. • Number of connectable IM 460s, max. • Number of DP masters  • integrated • via CP • via IM 467 • Mixed mode IM + CP permitted • via interface module  • via interface module • via interface module • Number of IO Controllers  • integrated • via CP • integrated • via CP permitted • Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  • integrated • via CP	Number of expansion units, max.	21
Interface modules  • Number of connectable IMs (total), max. • Number of connectable IM 460s, max. • Number of connectable IM 460s, max. • Number of DP masters  • integrated • via CP • via IM 467 • Mixed mode IM + CP permitted • via interface module • via interface module • Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  • integrated • via CP • Via C	connectable OPs	63
Number of connectable IMs (total), max. Number of connectable IM 460s, max. Number of connectable IM 460s, max. Number of DP masters  integrated via CP via IM 467 Mixed mode IM + CP permitted No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode  via interface module Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  integrated via CP A; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Limited by number of slots and number of connections  CP 440: Limited by number of slots; CP 441: limited by number of connections  PROFIBUS and Ethernet CPs A; Max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller	Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Number of connectable IM 460s, max.  Number of connectable IM 463s, max.  Number of DP masters  integrated  via CP  via IM 467  Mixed mode IM + CP permitted  via interface module  via interface module  Number of IO Controllers  integrated  via CP  4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  FM  CP, PtP  PROFIBUS and Ethernet CPs  14; In total max. 10 CPs as DP master and up to 4 CPs as PROFINET controller.	Interface modules	
Number of connectable IM 463s, max.  4; IM 463-2  Number of DP masters  integrated via CP via CP via IM 467 No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode  via interface module Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  integrated via CP 4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  FM CP, PtP CP 440: Limited by number of slots; CP 441: limited by number of connections  PROFIBUS and Ethernet CPs 14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller	<ul> <li>Number of connectable IMs (total), max.</li> </ul>	6
Number of DP masters         ● integrated       2         ● via CP       10; CP 443-5 Extended         ● via IM 467       4         ● Mixed mode IM + CP permitted       No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode         ● via interface module       1         ● Number of pluggable S5 modules (via adapter capsule in central device), max.       6         Number of IO Controllers       0         ● integrated       0         ● via CP       4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode         Number of operable FMs and CPs (recommended)       Elimited by number of slots and number of connections         ● 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         ● PROFIBUS and Ethernet CPs       14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller         Slots	<ul> <li>Number of connectable IM 460s, max.</li> </ul>	6
<ul> <li>integrated</li> <li>via CP</li> <li>via IM 467</li> <li>Mixed mode IM + CP permitted</li> <li>in PROFINET IO mode</li> <li>via interface module</li> <li>Number of pluggable S5 modules (via adapter capsule in central device), max.</li> <li>Number of IO Controllers</li> <li>integrated</li> <li>via CP</li> <li>4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode</li> <li>Number of operable FMs and CPs (recommended)</li> <li>FM</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots and number of connections</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> </ul>	<ul> <li>Number of connectable IM 463s, max.</li> </ul>	4; IM 463-2
via CP     via IM 467     Mixed mode IM + CP permitted     No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode      via interface module     via interface module	Number of DP masters	
<ul> <li>via IM 467</li> <li>Mixed mode IM + CP permitted</li> <li>No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode</li> <li>via interface module</li> <li>Number of pluggable S5 modules (via adapter capsule in central device), max.</li> <li>Number of IO Controllers</li> <li>integrated</li> <li>via CP</li> <li>4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode</li> <li>Number of operable FMs and CPs (recommended)</li> <li>FM</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> <li>Slots</li> </ul>	• integrated	2
No; IM 467 cannot be used jointly with CP 443-5 Ext. or CP 443-1 in PROFINET IO mode  via interface module Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  integrated Via CP  via CP  4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  FM  CP 440: Limited by number of slots and number of connections CP 440: Limited by number of slots; CP 441: limited by number of connections  PROFIBUS and Ethernet CPs  14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller	• via CP	10; CP 443-5 Extended
in PROFINET IO mode  • via interface module • Number of pluggable S5 modules (via adapter capsule in central device), max.  Number of IO Controllers  • integrated • via CP  4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  • FM  • CP, PtP  CP 440: Limited by number of slots; CP 441: limited by number of connections  • PROFIBUS and Ethernet CPs  14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller  Slots	• via IM 467	4
<ul> <li>Number of pluggable S5 modules (via adapter capsule in central device), max.</li> <li>Number of IO Controllers</li> <li>integrated</li> <li>via CP</li> <li>4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode</li> <li>Number of operable FMs and CPs (recommended)</li> <li>FM</li> <li>Limited by number of slots and number of connections</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> </ul>	<ul> <li>Mixed mode IM + CP permitted</li> </ul>	
capsule in central device), max.  Number of IO Controllers  • integrated  • via CP  4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode  Number of operable FMs and CPs (recommended)  • FM  • CP, PtP  CP 440: Limited by number of slots; CP 441: limited by number of connections  • PROFIBUS and Ethernet CPs  14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller	via interface module	1
<ul> <li>integrated</li> <li>via CP</li> <li>4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode</li> <li>Number of operable FMs and CPs (recommended)</li> <li>FM</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> <li>Slots</li> </ul>		6
<ul> <li>via CP</li> <li>4; Max. 4 in the central controller; no mixed operation of different CP 443-1 types in PROFINET IO mode</li> <li>Number of operable FMs and CPs (recommended)</li> <li>FM</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots and number of connections</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> </ul>	Number of IO Controllers	
Number of operable FMs and CPs (recommended)  • FM  • CP, PtP  • PROFIBUS and Ethernet CPs  • PROFIBUS and Ethernet CPs  Slots  • CP 443-1 types in PROFINET IO mode  Limited by number of slots and number of connections  CP 440: Limited by number of slots; CP 441: limited by number of connections  14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller	• integrated	0
<ul> <li>FM</li> <li>CP, PtP</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> </ul>	• via CP	
<ul> <li>CP, PtP</li> <li>CP 440: Limited by number of slots; CP 441: limited by number of connections</li> <li>PROFIBUS and Ethernet CPs</li> <li>14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller</li> </ul>	Number of operable FMs and CPs (recommended)	
connections  • PROFIBUS and Ethernet CPs  14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller  Slots	• FM	Limited by number of slots and number of connections
of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller  Slots	• CP, PtP	
	PROFIBUS and Ethernet CPs	of which up to 10 IMs or CPs as DP master and up to 4 CPs as
• required clots	Slots	
▼ required 5i0t5	• required slots	2
Time of day	Time of day	
Clock	Clock	
Hardware clock (real-time)  Yes	Hardware clock (real-time)	Yes
• retentive and synchronizable Yes	<ul> <li>retentive and synchronizable</li> </ul>	Yes
• Resolution 1 ms	<ul> <li>Resolution</li> </ul>	1 ms
• Deviation per day (buffered), max. 1.7 s; Power off	<ul> <li>Deviation per day (buffered), max.</li> </ul>	1.7 s; Power off
<ul> <li>Deviation per day (unbuffered), max.</li> <li>8.6 s; For power On</li> </ul>	<ul> <li>Deviation per day (unbuffered), max.</li> </ul>	8.6 s; For power On
Operating hours counter	Operating hours counter	
• Number 16	Number	16
Number/Number range     0 to 15	• Niconala a n/Niconala a non mana	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	
• to DP, master	Yes	
• to DP, slave	Yes	
• in AS, master	Yes	
• in AS, slave	Yes	
● on Ethernet via NTP	No; Via CP	
• to IF 964 DP	Yes	
Time difference in system when synchronizing via		
● MPI, max.	200 ms	
Interfaces		
Interfaces/bus type	1 x MPI/PROFIBUS DP, 1 x PROFIBUS DP, 1 x PROFIBUS DP	
	(optionally pluggable)	
Number of RS 485 interfaces	2; Combined MPI / PROFIBUS DP and PROFIBUS DP	
Number of other interfaces	1; PROFIBUS DP with IF 964-DP (plug-in option; MLFB: 6ES7964-2AA04-0AB0)	
1. Interface		
Interface type	Integrated	
Physics	RS 485 / PROFIBUS + MPI	
Isolated	Yes	
Power supply to interface (15 to 30 V DC), max.	150 mA	
Protocols		
• MPI	Yes	
PROFIBUS DP master	Yes	
PROFIBUS DP slave	Yes	
MPI		
Number of connections	32; 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		

Yes

Yes

Yes

Yes

Yes

Yes

Yes

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— S7 communication, as server
PROFIBUS DP master

— Routing

— PG/OP communication

— Global data communication

— S7 communication, as client

- S7 basic communication

- S7 communication



• Number of connections, max.	16; 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
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	Yes
<ul> <li>S7 communication, as server</li> </ul>	Yes
— Equidistance	Yes
— Isochronous mode	Yes
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
<ul> <li>Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP slave	
— User data per DP slave, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	
<ul> <li>Number of connections</li> </ul>	16
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
<ul><li>Transmission rate, max.</li></ul>	12 Mbit/s
<ul> <li>automatic baud rate search</li> </ul>	No
<ul><li>Address area, max.</li></ul>	32; Virtual slots
<ul> <li>User data per address area, max.</li> </ul>	32 byte
— of which consistent, max.	32 byte
Services	
— PG/OP communication	Yes; with interface active
— Routing	Yes; with interface active
<ul> <li>Global data communication</li> </ul>	No
— S7 basic communication	No



— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	Yes
<ul> <li>S7 communication, as server</li> </ul>	Yes
<ul> <li>Direct data exchange (slave-to-slave communication)</li> </ul>	No
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte

2. Interface	
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	16
Protocols	
<ul> <li>PROFIBUS DP master</li> </ul>	Yes
PROFIBUS DP slave	Yes
PROFIBUS DP master	
<ul><li>Number of connections, max.</li></ul>	16
<ul><li>Transmission rate, max.</li></ul>	12 Mbit/s
<ul><li>Number of DP slaves, max.</li></ul>	96
Services	
— PG/OP communication	Yes
— Routing	Yes; S7 routing
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>— S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	Yes
<ul> <li>— S7 communication, as server</li> </ul>	Yes
— Equidistance	Yes
— Isochronous mode	Yes
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
Direct data exchange (slave-to-slave)	Yes
communication)	
— DPV1	Yes
Address area	
— Inputs, max.	6 kbyte
— Outputs, max.	6 kbyte
User data per DP slave	



<ul><li>User data per DP slave, max.</li></ul>	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	
Number of connections	16
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
• Transmission rate, max.	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

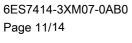
3. Interface	
Interface type	pluggable interface module (IF), technical data as for 2nd interface
Plug-in interface modules	IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
Physics	RS 485 / PROFIBUS
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	150 mA
automatic detection of transmission rate	No
Number of connection resources	16
Protocols	
• MPI	No
<ul> <li>PROFIBUS DP master</li> </ul>	Yes
<ul> <li>PROFIBUS DP slave</li> </ul>	Yes
PROFIBUS DP master	
<ul> <li>Number of connections, max.</li> </ul>	16
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
<ul> <li>Number of DP slaves, max.</li> </ul>	96
Services	
— PG/OP communication	Yes
— Routing	Yes; S7 routing
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>S7 communication, as client</li> </ul>	Yes



<ul> <li>— S7 communication, as server</li> </ul>	Yes
— Equidistance	Yes
— Isochronous mode	Yes
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
<ul> <li>Direct data exchange (slave-to-slave</li> </ul>	Yes
communication)	
— DPV0	Yes
— DPV1	Yes
Address area	
— Inputs, max.	6 kbyte
— Outputs, max.	6 kbyte
User data per DP slave	
— User data per DP slave, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	
Number of connections	16
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
• Transmission rate, max.	12 Mbit/s
automatic baud rate search	No
<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	
— 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>	Yes
<ul> <li>— S7 communication, as server</li> </ul>	Yes
Direct data exchange (slave-to-slave)	No
communication)	
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
Dustanala	
Protocols	

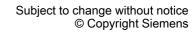


ISO-on-TCP (RFC1006) Data length, max.  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  Web server  supported No cohronous mode  Equidistance Number of DP masters with isochronous mode 3 User data per isochronous slave, max. Syche as very some state of CP swithout message processing Number of connectable OPs without message processing Number of connectable OPs with message processing Number of connectable OPs with message processing Number of CP swithout message processing Number of DP nasters with message processing Number of CP swith message processing Number of CP packets, receiver, max. Supported Number of GD packets, transmitter, max. Number of GD packets, transmitter, max. Size of GP packets, receiver, max. Size of GP packets, receiver, max. Size of GP packets, receiver, max. Size of Spackets, for some state of the space of the spac		
— Data length, max.  Web server  • supported  No  ochronous mode  Equidistance  Yes  Number of DP masters with isochronous mode  shortest clock pulse  nonmunication  Number of GD poackets, transmitter, max.  Number of GD packets, max.  • Number of GD packets, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  • Stormunication  • supported  • Supported  • Supported  • Sure data per job, max.  • User data per job (of which consistent), max.  • Ves; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5  • User data per job, max.  • User data per job (of which consistent), max.  • Wes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5  • User data per job, max.  • User data per job, max.	Open IE communication	
Supported Suppo	• ISO-on-TCP (RFC1006)	
Supported     No     Ochronous mode Equidistance Number of DP masters with isochronous mode 3 User data per isochronous slave, max.  \$244 byte shortest clock pulse  max. cycle 32 ms    1 ms; 0.5 ms without use of SFC 126, 127   32 ms	— Data length, max.	1 452 bytes via CP 443-1 Adv.
ochronous mode Equidistance  Number of DP masters with isochronous mode  3 User data per isochronous slave, max. 244 byte  1 ms; 0.5 ms without use of SFC 126, 127  32 ms  ommunication functions  PG/OP communication  Number of connectable OPs without message processing  Number of connectable OPs with message processing  Number of GD loops, max.  Subject of GD packets, transmitter, max.  Number of GD packets, transmitter, max.  Number of GD packets, transmitter, max.  Size of GD packets, max.  Size of GD packets, max.  Size of GD packets, max.  Size of GD packet (of which consistent), max.  To supported	Web server	
Equidistance Number of DP masters with isochronous mode 3 User data per isochronous slave, max. 244 byte shortest clock pulse 1 ms; 0.5 ms without use of SFC 126, 127 32 ms    Number of connectable OPs without message processing   Number of connectable OPs with message processing   OBata record routing	• supported	No
Number of DP masters with isochronous mode User data per isochronous slave, max.  244 byte  1 ms; 0.5 ms without use of SFC 126, 127  32 ms  ***Onmunication functions**  **PG/OP communication**  • Number of connectable OPs without message processing  • Number of connectable OPs with message processing  • Number of connectable OPs with message processing  • Number of connectable OPs with message processing  • Number of GD packets, transmitter, max.  • supported  • supported  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Number of GD packets, max.  • Size of GD packets, max.  • Size of GD packets, max.  • Size of GD packet (of which consistent), max.  **S7 basic communication**  • supported  • Size of AG SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  • User data per job, max.	sochronous mode	
User data per isochronous slave, max.  shortest clock pulse  max. cycle  32 ms   Ommunication functions  PG/OP communication  • Number of connectable OPs without message processing  • Number of connectable OPs with message processing  Data record routing  Slobal data communication  • supported  • Number of GD packets, transmitter, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, max.  • Size of GD packet (of which consistent), max.  • Size of GD packet (of which consistent), max.  • Supported  • User data per job, max.  • User data per job, max.  • supported	Equidistance	Yes
shortest clock pulse  max. cycle  32 ms  ommunication functions  PG/OP communication  • Number of connectable OPs without message processing  • Number of connectable OPs with message processing  • Number of connectable OPs with message processing  Data record routing  Slobal data communication  • supported  • Number of GD loops, max.  • Number of GD packets, transmitter, max.  • Number of GD packets, receiver, max.  • Number of GD packets, receiver, max.  • Size of GD packets (of which consistent), max.  • Size of GD packet (of which consistent), max.  • Supported  • supported  • supported  • supported  • supported  • user data per job, max.  • User data per job (of which consistent), max.  Stocompatible communication  • supported	Number of DP masters with isochronous mode	3
max. cycle  max. cycl  max.	User data per isochronous slave, max.	244 byte
PG/OP communication  Number of connectable OPs without message processing  Number of connectable OPs with message processing  Number of connectable OPs with message processing  Pata record routing  Biobal data communication  Supported  Number of GD loops, max.  Number of GD packets, transmitter, max.  Number of GD packets, transmitter, max.  Size of GD packets, max.  Size of GD packet (of which consistent), max.  Pisize of GD packet (of which consistent), max.  President of GD packet (of GD packet (of Which consistent), max.  President of GD packet (of GD packet (of Which consistent), max.  President of GD packet (of Which consistent), max.  President of GD packet (of Which consistent)	shortest clock pulse	1 ms; 0.5 ms without use of SFC 126, 127
Number of connectable OPs without message processing     Number of connectable OPs with message processing     Number of connectable OPs with message processing     Number of connectable OPs with message processing  Data record routing  Side at a communication      Supported     Number of GD loops, max.     Number of GD packets, transmitter, max.     Number of GD packets, transmitter, max.     Number of GD packets, receiver, max.     Number of GD packets, max.     Number of GD packets, max.     Size of GD packet (of which consistent), max.      Size of GD packet (of which consistent), max.      Yes     Size of GD packet (of which consistent), max.      Yes     Ves data per job, max.     User data per job (of which consistent), max.      Yes     as server     as client     User data per job, max.     User data per job (of which consistent), max.      Yes     as client     Secompatible communication      Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5     User data per job, max.     8     8     As dead and a connectable OPs with message processing     Size of 3     Size of GD packet (of which consistent), max.      Yes     as client     Yes     as client     Secompatible communication      Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5     Second Adaram_Divaction      Size of GD packets (of which consistent), max.      Size of GD packets, max.     As byte	max. cycle	32 ms
Number of connectable OPs without message processing  Number of connectable OPs with message processing  Data record routing  Global data communication  Supported Number of GD loops, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, receiver, max. Size of GD packet (of which consistent), max. Size of GD packet (of which consistent), max.  Solution of GD packet (of which consistent), max. Solution of GD packet (of Which consistent), max. Solution of GD packet (of Which consistent), max. Solution of GD packet (of Which consistent), max. Solution of GD packet (of Which consistent), wax. So	communication functions	
Number of connectable OPs with message processing  Pata record routing  Slobal data communication  Supported Number of GD loops, max. Number of GD packets, transmitter, max. Size of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. Size of GD packets, receiver, max. Size of GD packets, receiver, max. Size of GD packets, receiver, max. Size of GD packets, transmitter, max. Size of GD packets, receiver, max. Size of GD packets, re	PG/OP communication	Yes
Data record routing Data record routing Personal Pata record routing  Slobal data communication  • supported • Number of GD loops, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.  Pyes • as server • as client • User data per job, max. • User data per job, max. • User data per job (of which consistent), max.  Pyes • as client • User data per job (of which consistent), max.  S5 compatible communication  • supported • User data per job (of which consistent), max.  S6 kbyte  Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5 • User data per job, max.		63
Global data communication  • supported • Number of GD loops, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Number of GD packets, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. • Size of GD packet (of which consistent), max.  • Size of GD packet (of which consistent), max.  • Size of GD packet (of which consistent), max.  • User data per job, max. • User data per job (of which consistent), max.  • User data per job (of which consistent), max.  • Sommunication • supported • as server • as client • User data per job, max. • User data per job (of which consistent), max.  • User data per job (of which consistent), max.  • User data per job (of which consistent), max.  • Sompatible communication • supported  • Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5  • User data per job, max.	_	63; When using Alarm_S/SQ and Alarm_D/DQ
<ul> <li>supported</li> <li>Number of GD loops, max.</li> <li>Number of GD packets, transmitter, max.</li> <li>Number of GD packets, receiver, max.</li> <li>Size of GD packets, max.</li> <li>Size of GD packet (of which consistent), max.</li> <li>Size of GD packet (of which consistent), max.</li> <li>Size of GD packet (of which consistent), max.</li> <li>Ves</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>Yes</li> <li>as server</li> <li>as client</li> <li>User data per job (of which consistent), max.</li> <li>User data per job, max.</li> <li>Ves; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5</li> <li>User data per job, max.</li> <li>User data per job, max.</li> <li>User data per job, max.</li> </ul>	Data record routing	Yes
Number of GD loops, max.  Number of GD packets, transmitter, max.  Number of GD packets, receiver, max.  Size of GD packets, max.  Size of GD packet (of which consistent), max.  Size of GD packet (of which consistent), max.  Yes  user data per job, max.  User data per job (of which consistent), max.  Yes  as server  sas client  User data per job, max.  User data per job, max.  Size of GD packet (of which consistent), max.  Yes  As server  Size of GD packets, max.  Yes  User data per job (of which consistent), max.  Yes  As server  Size of GD packets, receiver, max.  Yes  User data per job (of which consistent), max.  Size of GD packets, transmitter, max.  Yes  Ves  Ves  As server  Ves  As server  Ves  User data per job, max.  User data per job (of which consistent), max.  Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5	Global data communication	
Number of GD packets, transmitter, max.  Number of GD packets, receiver, max.  Size of GD packets, max.  Size of GD packet (of which consistent), max.  Ves  user data per job, max.  User data per job (of which consistent), max.  Yes  user data per job (of which consistent), max.  Yes  user data per job (of which consistent), max.  Yes  as server  user data per job, max.  User data per job, max.  User data per job, max.  User data per job (of which consistent), max.  Yes  user data per job (of which consistent), max.  Yes  user data per job (of which consistent), max.  Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves	• supported	Yes
Number of GD packets, receiver, max.  Size of GD packets, max.  Size of GD packet (of which consistent), max.  Yes  User data per job, max.  Supported  Sommunication  Supported  Ves  User data per job (of which consistent), max.  Yes  as server  Sommunication  User data per job, max.  User data per job, max.  Sommunication  Yes  as server  Sommunication  Yes  User data per job, max.  User data per job, max.  Sommunication  Yes  Sommunication  Yes  Sommunication  Yes  Sommunication  Yes  Sommunication  Yes  Sommunication  Yes  User data per job, max.  Sommunication  Yes  Ves  Sommunication  Yes  Ves  Sommunication  Yes  Sommunication  Yes  Sommunication  Yes  Ves  Ves  Sommunication  Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves	<ul> <li>Number of GD loops, max.</li> </ul>	8
Size of GD packets, max.  Size of GD packet (of which consistent), max.  1 variable  The supported of the support of the suppo	Number of GD packets, transmitter, max.	8
Size of GD packet (of which consistent), max.  1 variable  7 basic communication  • supported  • User data per job, max.  • User data per job (of which consistent), max.  7 byte  1 variable  7 communication  • supported  • supported  • as server  • as client  • User data per job, max.  • User data per job (of which consistent), max.  64 kbyte  • User data per job (of which consistent), max.  85 compatible communication  • supported  • supported  • Syes, Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  • User data per job, max.  8 kbyte	Number of GD packets, receiver, max.	16
Size of GD packet (of which consistent), max.  1 variable  Yes  User data per job, max. User data per job (of which consistent), max.  Yes  variable  Yes  variable  Yes  variable  Yes  variable  Yes  as server  as client  User data per job, max. User data per job (of which consistent), max.  Yes  as client  Ves  462 byte; 1 variable  Yes, Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  User data per job, max.  Ves; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  Ves data per job, max.  8 kbyte	Size of GD packets, max.	54 byte
S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.  • supported • as server • as client • User data per job, max. • User data per job, max. • User data per job (of which consistent), max.  • S5 compatible communication  • supported • Yes • as client • Yes • 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 • User data per job, max.  • User data per job, max.	·	1 variable
<ul> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>1 variable</li> <li>S7 communication</li> <li>supported</li> <li>as server</li> <li>as client</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>462 byte; 1 variable</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	S7 basic communication	
<ul> <li>User data per job (of which consistent), max.</li> <li>1 variable</li> <li>S7 communication</li> <li>supported</li> <li>as server</li> <li>as client</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>462 byte; 1 variable</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 of 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	• supported	Yes
S7 communication  • supported • as server • as client • User data per job, max. • User data per job (of which consistent), max.  S5 compatible communication • supported • user data per job, max. • User data per job (of which consistent) was.  Yes 462 byte; 1 variable  Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5  • User data per job, max.	User data per job, max.	76 byte
<ul> <li>supported</li> <li>as server</li> <li>as client</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes</li> <li>462 byte; 1 variable</li> <li>S5 compatible communication</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	• User data per job (of which consistent), max.	1 variable
<ul> <li>as server</li> <li>as client</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>462 byte; 1 variable</li> <li>compatible communication</li> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	S7 communication	
<ul> <li>as client</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes</li> <li>64 kbyte</li> <li>462 byte; 1 variable</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	• supported	Yes
<ul> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	• as server	Yes
<ul> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	• as client	Yes
<ul> <li>User data per job (of which consistent), max.</li> <li>S5 compatible communication</li> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	User data per job, max.	64 kbyte
S5 compatible communication  • supported  • supported  • User data per job, max.  Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 o 443-5  8 kbyte		462 byte; 1 variable
<ul> <li>supported</li> <li>Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5</li> <li>User data per job, max.</li> <li>8 kbyte</li> </ul>	S5 compatible communication	
		Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5
	User data per job, max.	8 kbyte
	User data per job (of which consistent), max.	240 byte



orders per CPU, max.

• Number of simultaneous AG-SEND/AG-RECV



24/24

Standard communication (FMS)	
• supported	Yes; Via CP and loadable FB
Number of connections	
• overall	64
<ul> <li>usable for PG communication</li> </ul>	63
<ul> <li>reserved for PG communication</li> </ul>	1
<ul> <li>adjustable for PG communication, max.</li> </ul>	0
<ul> <li>usable for OP communication</li> </ul>	63
<ul> <li>reserved for OP communication</li> </ul>	1
— adjustable for OP communication, max.	0
<ul> <li>usable for S7 basic communication</li> </ul>	62
<ul> <li>reserved for S7 basic communication</li> </ul>	0
<ul> <li>adjustable for S7 basic communication,</li> </ul>	0
max.	
<ul> <li>usable for S7 communication</li> </ul>	62
<ul> <li>reserved for S7 communication</li> </ul>	0
<ul> <li>adjustable for S7 communication, max.</li> </ul>	0
<ul> <li>usable for routing</li> </ul>	31
<ul> <li>reserved for routing</li> </ul>	0
— adjustable for routing, max.	0

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.	400; 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</li> </ul>	1 200
communication blocks, max.	
• preset, max.	300
Process control messages	Yes
Number of archives that can log on simultaneously	16
(SFB 37 AR_SEND)	
Number of messages	
• overall, max.	512
• in 100 ms grid, max.	128
● in 500 ms grid, max.	256
● in 1000 ms grid, max.	512
Number of additional values	



• with 100 ms grid, max.	1
• with 500, 1000 ms grid, max.	10

• with 500, 1000 ms grid, max.	10
Test commissioning functions	
Status block	Yes; Up to 16 simultaneously
Single step	Yes
Number of breakpoints	16
Status/control	
Status/control variable	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>	256
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
DOM // L O TIOIO	<b>V</b>

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.	60 °C

Configuration	
Configuration software	
• STEP 7	Yes
Programming	



Command set	see instruction list
Nesting levels	7
Access to consistent data in process image	Yes
System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
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; SFC 51
— 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	
User program protection/password protection	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	50 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	900 g
last modified:	10/09/2020

