## **SIEMENS**

## **Data sheet**

6ES7417-4XT07-0AB0



SIMATIC S7-400, CPU 417-4 Central processing unit with: Work memory 32 MB, (16 MB code; 16 MB data) 1st interface MPI 12 Mbit/s; 2nd interface PROFIBUS DP, 3rd/4th interface plug-in IFM module

General information	
Product type designation	CPU 417-4
HW functional status	01
Firmware version	V7.0
Product function	
<ul> <li>Isochronous mode</li> </ul>	Yes; For PROFIBUS only
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V5.4 or higher with HSP 261
CiR - Configuration in RUN	
CiR synchronization time, basic load	60 ms
CiR synchronization time, time per I/O byte	7 µs
Supply voltage	
Rated value (DC)	Power supply via system power supply
Input current	
from backplane bus 5 V DC, typ.	1.3 A
from backplane bus 5 V DC, max.	1.6 A
from backplane bus 24 V DC, max.	600 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	6.5 W
Power loss, max.	8 W
Memory	
Type of memory	RAM
Work memory	
<ul><li>integrated</li></ul>	32 Mbyte
<ul><li>integrated (for program)</li></ul>	16 Mbyte
<ul><li>integrated (for data)</li></ul>	16 Mbyte
expandable	No
Load memory	
<ul> <li>expandable FEPROM</li> </ul>	Yes; with Memory Card (FLASH)
<ul> <li>expandable FEPROM, max.</li> </ul>	64 Mbyte
<ul><li>integrated RAM, max.</li></ul>	1 Mbyte
<ul> <li>expandable RAM</li> </ul>	Yes; with Memory Card (RAM)
• expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
<ul><li>with battery</li></ul>	Yes; all data
without battery	No
Battery	
Backup battery	

Backup current, typ.	225 μA; up to 40 °C
Backup current, max.	1 275 μΑ
Backup time, max.	See reference manual, module data, Chapter 3.3
Feeding of external backup voltage to CPU	5 V DC to 15 V DC
CPU processing times	
for bit operations, typ.	7.5 ns
for word operations, typ.	7.5 ns
for fixed point arithmetic, typ.	7.5 ns
for floating point arithmetic, typ.	15 ns
CPU-blocks	
DB	
<ul><li>Number, max.</li></ul>	16 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
<ul><li>Number, max.</li></ul>	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
<ul><li>Number, max.</li></ul>	8 000; 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 μs)
<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>	3; OB 100-102
<ul> <li>Number of asynchronous error OBs</li> </ul>	9; OB 80-88
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
<ul> <li>per priority class</li> </ul>	24
additional within an error OB	2
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
— 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
— 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	Offinition (infinited offly by Ferritri capacity)
Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)
Flag	Total working and load memory (with backup battery)
• Size, max.	16 kbyte; Size of bit memory address area
Retentivity available	Yes
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; in 1 memory byte
Local data	
adjustable, max.	64 kbyte
• preset	32 kbyte
Address area	
I/O address area	
<ul><li>Inputs</li></ul>	16 kbyte
Outputs	16 kbyte
Process image	
<ul> <li>Inputs, adjustable</li> </ul>	16 kbyte
Outputs, adjustable	16 kbyte
• Inputs, default	1 024 byte
<ul> <li>Outputs, default</li> </ul>	1 024 byte
<ul><li>consistent data, max.</li></ul>	244 byte
Access to consistent data in process image	Yes
Subprocess images	
Number of subprocess images, max.  District of seconds.	15
Digital channels	404.070
Inputs     of which control	131 072
— of which central	131 072
Outputs  — of which central	131 072 131 072
— or which central  Analog channels	101 012
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	119
Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Interface modules	
Number of connectable IMs (total), max.	6
Number of connectable IM 460s, max.	6
Number of connectable IM 463s, max.	4; IM 463-2
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	2
<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; 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	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	HIGAHIIUIII
Oloto	

• required slots	2
• required slots	2
Time of day	
Clock	
<ul> <li>Hardware clock (real-time)</li> </ul>	Yes
<ul> <li>retentive and synchronizable</li> </ul>	Yes
<ul> <li>Resolution</li> </ul>	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	
<ul><li>Number</li></ul>	16
<ul> <li>Number/Number range</li> </ul>	0 to 15
<ul> <li>Range of values</li> </ul>	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
• on MPI, device	Yes
• to DP, master	Yes
• on DP, device	Yes
• in AS, master	Yes
• in AS, device	Yes
on Ethernet via NTP	No; Via CP
• to IF 964 DP	Yes
Time difference in system when synchronizing via	165
MPI, max.	200 ms
Interfaces	200 1118
	4 v MDI/DDOFIDUS DD 4 v DDOFIDUS DD 2 v DDOFIDUS DD /ontionally
Interfaces/bus type	1 x MPI/PROFIBUS DP, 1 x PROFIBUS DP, 2 x PROFIBUS DP (optionally pluggable)
Number of RS 485 interfaces	2; Combined MPI / PROFIBUS DP and PROFIBUS DP
Number of other interfaces	2; PROFIBUS DP with IF 964-DP (plug-in option; MLFB: 6ES7964-2AA04-
	0AB0)
1. Interface	
Interface type	MPI/PROFIBUS DP
Isolated	Yes
Interface types	
• RS 485	Yes
<ul> <li>Output current of the interface, max.</li> </ul>	150 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
MPI	100
Number of connections	44; If a diagnostics repeater is used on the line, the number of connection
• Number of confidence	resources on the line is reduced by 1
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
OT COMMINICATION	100
— S7 communication, as client	Yes
— S7 communication, as client  — S7 communication, as server.	Yes
— S7 communication, as server	Yes Yes
— S7 communication, as server PROFIBUS DP master	Yes
— S7 communication, as server	
— S7 communication, as server PROFIBUS DP master	Yes  32; If a diagnostics repeater is used on the line, the number of connection
<ul> <li>— S7 communication, as server</li> <li>PROFIBUS DP master</li> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> </ul>	Yes  32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
<ul> <li>— S7 communication, as server</li> <li>PROFIBUS DP master</li> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> </ul>	Yes  32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1  12 Mbit/s
<ul> <li>— S7 communication, as server</li> <li>PROFIBUS DP master</li> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> </ul>	Yes  32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1  12 Mbit/s
<ul> <li>— S7 communication, as server</li> <li>PROFIBUS DP master</li> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> </ul>	Yes  32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1  12 Mbit/s  32

Clabel data communication	No
— Global data communication	
— S7 basic communication	Yes
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Equidistance	Yes
— Isochronous mode	Yes
— SYNC/FREEZE	Yes
activation/deactivation of DP devices	Yes
Direct data exchange (slave-to-slave communication)	Yes
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
PROFIBUS DP slave	
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
— 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)	N.
— DPV1	No
Transfer memory	044 h. 4-
— Inputs	244 byte
— Outputs	244 byte
2. Interface	PROFINIA PR
Interface type	PROFIBUS DP
Isolated	Yes
Interface types	V
• RS 485	Yes
Output current of the interface, max.	150 mA
Protocols	
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
PROFIBUS DP master	
Number of connections, max.	32
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
max. number of DP devices	125
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

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— activation/deactivation of DP devices	Yes
<ul> <li>Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	Yes
Address area	165
	9 khyto
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP slave	
— user data per DP device, 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>	32
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)
Isolated	Yes
automatic detection of transmission rate	No
Interface types	
• RS 485	Yes
<ul> <li>Output current of the interface, max.</li> </ul>	150 mA
Protocols	
• MPI	No
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
PROFIBUS DP master	
PROFIBUS DP master  • Number of connections, max.	32
Number of connections, max.	32 12 Mbit/s
	12 Mbit/s
<ul><li>Number of connections, max.</li><li>Transmission rate, max.</li><li>max. number of DP devices</li></ul>	
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> </ul>	12 Mbit/s 125
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> </ul>	12 Mbit/s 125 Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services  — PG/OP communication — Routing</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services <ul> <li>PG/OP communication</li> <li>Routing</li> <li>Global data communication</li> <li>S7 basic communication</li> <li>S7 communication</li> </ul> </li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes Yes Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes Yes Yes Yes Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication, as client</li> <li>— S7 communication, as server</li> <li>— Equidistance</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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>— Equidistance</li> <li>— Isochronous mode</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes Yes Yes Yes Yes Yes Yes Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— activation/deactivation of DP devices</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</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>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— activation/deactivation of DP devices</li> <li>— Direct data exchange (slave-to-slave)</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes
Number of connections, max. Transmission rate, max.  max. number of DP devices  Services  — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — activation/deactivation of DP devices — Direct data exchange (slave-to-slave communication)	12 Mbit/s 125  Yes Yes; S7 routing No Yes
Number of connections, max. Transmission rate, max.  max. number of DP devices  Services  — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — activation/deactivation of DP devices — Direct data exchange (slave-to-slave communication) — DPV0	12 Mbit/s 125  Yes Yes; S7 routing No Yes
Number of connections, max. Transmission rate, max.  max. number of DP devices  Services  — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — activation/deactivation of DP devices — Direct data exchange (slave-to-slave communication) — DPV0 — DPV1	12 Mbit/s 125  Yes Yes; S7 routing No Yes
<ul> <li>Number of connections, max.</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication, as client</li> <li>— S7 communication, as server</li> <li>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— activation/deactivation of DP devices</li> <li>— Direct data exchange (slave-to-slave communication)</li> <li>— DPV0</li> <li>— DPV1</li> <li>Address area</li> <li>— Inputs, max.</li> </ul>	12 Mbit/s 125  Yes Yes; S7 routing No Yes
Number of connections, max. Transmission rate, max.  max. number of DP devices  Services  — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — activation/deactivation of DP devices — Direct data exchange (slave-to-slave communication) — DPV0 — DPV1  Address area	12 Mbit/s 125  Yes Yes; S7 routing No Yes

	0441
— user data per DP device, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	20
<ul> <li>number of possible connections / at the 3rd interface / as DP slave</li> </ul>	32
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
transfer rate / at the 3rd interface / as DP slave /	12 Mbit/s
maximum	
<ul> <li>automatic baud rate search</li> </ul>	No
<ul> <li>Address area, max.</li> </ul>	32
<ul> <li>data volume / at the 3rd interface / as DP slave / as user data per address range / maximum</li> </ul>	32 byte
— data volume / at the 3rd interface / as DP slave / as consistent reference data per address range / maximum	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes; with interface active
Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
S7 communication, as client	Yes
— S7 communication, as server	Yes
Direct data exchange (slave-to-slave communication)	No
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
·	2.1.5,10
4. Interface	
4. Interface Interface type	pluggable interface module (IF), technical data as for 2nd interface
Interface type	pluggable interface module (IF), technical data as for 2nd interface IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
	pluggable interface module (IF), technical data as for 2nd interface IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
Interface type Plug-in interface modules	
Interface type Plug-in interface modules Protocols SIMATIC communication	
Interface type Plug-in interface modules Protocols	IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication	IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
Interface type Plug-in interface modules Protocols SIMATIC communication  • S7 routing	IF 964-DP (MLFB: 6ES7964-2AA04-0AB0) Yes
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)	Yes Via CP 443-1 and loadable FB
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.	Yes Via CP 443-1 and loadable FB
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  Yes
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse  max. cycle  communication functions / header	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle  communication functions / header  PG/OP communication	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse  max. cycle  communication functions / header  PG/OP communication  • Number of connectable OPs without message processing	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle  communication functions / header  PG/OP communication  • Number of connectable OPs with message processing  • Number of connectable OPs with message processing	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ
Interface type Plug-in interface modules  Protocols  SIMATIC communication  S7 routing  Open IE communication  ISO-on-TCP (RFC1006)  Data length, max.  Web server  supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle  communication functions / header  PG/OP communication  Number of connectable OPs without message processing  Number of connectable OPs with message processing	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ
Interface type Plug-in interface modules  Protocols  SIMATIC communication  S7 routing  Open IE communication  ISO-on-TCP (RFC1006)  Data length, max.  Web server  supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle  communication functions / header  PG/OP communication  Number of connectable OPs without message processing  Number of connectable OPs with message processing  Data record routing  Global data communication	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ Yes
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle  communication functions / header  PG/OP communication  • Number of connectable OPs without message processing  • Number of connectable OPs with message processing  Data record routing  Global data communication  • supported	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ Yes  Yes
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse max. cycle  communication functions / header  PG/OP communication  • 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.	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ Yes  Yes 16
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse  max. cycle  communication functions / header  PG/OP communication  • 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.	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ Yes  Yes 16 16
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse  max. cycle  communication functions / header  PG/OP communication  • 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.	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes  4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ Yes  Yes 16 16 16 32
Interface type Plug-in interface modules  Protocols  SIMATIC communication  • S7 routing  Open IE communication  • ISO-on-TCP (RFC1006)  — Data length, max.  Web server  • supported  Isochronous mode  Equidistance  Number of DP masters with isochronous mode  User data per isochronous slave, max.  shortest clock pulse  max. cycle  communication functions / header  PG/OP communication  • 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, max.	Yes  Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.  No  Yes 4 244 byte 1 ms; 0.5 ms without use of SFC 126, 127 32 ms  Yes 119 119; When using Alarm_S/SQ and Alarm_D/DQ Yes  Yes 16 16 32 54 byte

* User data per job, max.     * User data per job (or winch consistent), max.     * User data per job (or winch consi		V
■ User data per jbb of which consistent), max.     ■ User data per jbb of which consistent), max.     ■ User data per jbb of which consistent), max.     ■ User data per jbb of which consistent), max.     ■ User data per jbb of which consistent), max.     ■ User data per jbb of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent), max.     ■ User data per jbb, of which consistent jbb, which is given in the per jbb, which	• supported	Yes
* supported * subserver * Yes * as client * Yes * data per job, max. * 402 byte; 1 variable * Stormpatible communication * supported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * 8 ktyle * as paported * Yes, Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * Ag, SEND, Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * Ag, SEND, Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * Ag, SEND, Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 443-1 or 443-5 * Ag, SEND, Yes, Var FC AG, SEND and AG, RECV, max. Via 10 CP 445-1 or 445-1 or 445-1 or 445-1 or 445-1 or 445-1 or		
e.upported		1 variable
** as cultert		V
■ sat Jeinf     ■ User data per job, max.     ■ User data per job, en with consistent), max.     ■ Winnber of simultaneous AC-SEND/AG-RECV orders per CPU, max.     ■ Standard communication (PMS)     ■ Supported     ■ Standard communication (PMS)     ■ Supported     ■ User data per job, en with consistent), max.     ■ User data per job, en with consistent), max.     ■ User data per job, en with consistent), max.     ■ User data per job, en with consistent), max.     ■ User data per job, en with consistent, max.	• •	
■ 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.     ■ User data per job (of Which Consistent), 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.     ■ User data per job (of Which Consistent), 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.     ■ User data per job (of Which Consistent), max.     ■ User data per job (of Which Consistent), max.     ■ User data per job (of Which Consi		
Leura data per job (or which consistent), max.		
SS.compatible communication  • supported • supported • Starbord consistent), max. • User data per job, max. • User data per job, max. • Where for simultaneous AS-GSND/AG-RECV orders per CPU, max.  * Number of connections  • voveral • usuable for PC communication • reserved for PC communication • adjustable for SP basic communication • adjustable for SP communication • reserved for SP basic communication • adjustable for SP basic communication • adjustable for SP basic communication • adjustable for SP communica		
Yes, Vis FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5		462 byte; 1 variable
User data per job, on wax.   Skbyte		Vacablia FC AC CENID and AC DECV may via 40 CD 442 4 or 442 5
Number of smultaneous AG-SENDIAG-RECV orders per PU, max.		
Number of simultaneous AG-SENDIAG-RECV orders per CPU, max.		
Standard communication (FMS)		
Standard communication (FMS)  • supported  • supported  • overall  • usable for PG communication  — reserved for PG communication  — reserved for PG communication  — reserved for PG communication  — adjustable for PG communication  — reserved for ST basic communication  — reserved for ST communication  — subside for ST communication  — reserved for ST communication  — adjustable for ST communication  — reserved for ST communication  — reserved for subside for ST communication, max.  • usable for routing  — adjustable for ST communication, max.  • usable for routing  — reserved for routing  — reserved for routing  — adjustable for ST communication, max.  • usable for routing  — reserved for ST communication  process diagnost instance for reseasage functions, max.    119; Max. 119 with Alarm, StSQ and Alarm, DtDQ (OPs); max. 16 with Alarm, Alarm, B, Alarm, B, Notify and Notify, B (e.g. WinCC)    ST message functions    ST message functions   Yes   SCAN procedure		64/64
Supported   Ves; Via CP and loadable FB		
Number of connections	·	Yes; Via CP and loadable FB
■ overall     ■ usable for PG communication		
		120
usable for OP communication reserved for OP communication adjustable for OP communication 118 usable for S7 basic communication 118 reserved for S7 basic communication 30 usable for S7 basic communication 318 reserved for S7 communication 32 usable for S7 basic communication 33 usable for S7 communication 34 usable for S7 basic communication 35 usable for S7 communication 36 reserved for S7 communication 37 usable for S7 communication 38 usable for F3 communication 39 reserved for T9 to T9 search T9	— reserved for PG communication	1
usable for OP communication reserved for OP communication adjustable for OP communication 118 usable for S7 basic communication 118 reserved for S7 basic communication 30 usable for S7 basic communication 318 reserved for S7 communication 32 usable for S7 basic communication 33 usable for S7 communication 34 usable for S7 basic communication 35 usable for S7 communication 36 reserved for S7 communication 37 usable for S7 communication 38 usable for F3 communication 39 reserved for T9 to T9 search T9	<ul> <li>adjustable for PG communication, max.</li> </ul>	0
- adjustable for OP communication, max.  • usable for S7 basic communication  - reserved for S7 basic communication  - adjustable for S7 basic communication, max.  • usable for S7 communication  - adjustable for S7 communication  - adjustable for S7 communication  - adjustable for S7 communication, max.  • usable for routing  - reserved for routing  - reserved for routing  - adjustable for routing  - adjustable for routing  - adjustable for routing  - adjustable for routing  - message functions  Number of login stations for message functions, max.  119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (DPs); max. 16 with Alarm, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Symbol-related messages  Yes  Program alarms  Yes  Program alarms  Yes  Process diagnostic messages  imultaneously active Alarm-S blocks, max.  1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Alarm 8-blocks  • Number of instances for alarm 8 and S7 communication blocks, max.  • preset, max.  1 200  Process control messages  Yes  Number of messages  • overall, max.  • in 100 ms gnd, max.  • with 500, 1000 ms gnd, max.  • with 100 ms gnd, max.  • with 500, 1000 ms gnd, max.  • with 500, 1000 ms gnd, max.  • with 100 ms gnd, max.  • with 500, 1000 ms gnd, max.  • with 500 ms gnd, max.  • yes: Up to 16 simultaneously  Silatus block  Number of breakpoints		119
usable for S7 basic communication  reserved for S7 basic communication  adjustable for S7 basic communication, max.  usable for S7 communication  - adjustable for S7 communication  - adjustable for S7 communication, max.  usable for routing  - reserved for routing  - reserved for routing  - reserved for routing  - adjustable for routing  - adjustable for routing, max.  0  S7 message functions  Number of login stations for message functions, max.  119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_S, Alarm_SP, Notify and Notify_S (e.g. WinCC)  Symbol-related messages  Yes  SCAN procedure  Yes  Process and prospective Alarm-S blocks, max.  1 1000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Number of instances for alarm 8 and S7 communication blocks, max.  • reserved max.  • process and proc	— reserved for OP communication	1
usable for S7 basic communication  reserved for S7 basic communication  adjustable for S7 basic communication, max.  usable for S7 communication  - adjustable for S7 communication  - adjustable for S7 communication, max.  usable for routing  - reserved for routing  - reserved for routing  - reserved for routing  - adjustable for routing  - adjustable for routing, max.  0  S7 message functions  Number of login stations for message functions, max.  119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_S, Alarm_SP, Notify and Notify_S (e.g. WinCC)  Symbol-related messages  Yes  SCAN procedure  Yes  Process and prospective Alarm-S blocks, max.  1 1000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Number of instances for alarm 8 and S7 communication blocks, max.  • reserved max.  • process and proc	<ul> <li>adjustable for OP communication, max.</li> </ul>	0
- adjustable for S7 basic communication 118 - reserved for S7 communication 0 - adjustable for S7 communication, max. 0 • usable for routing 59 - reserved for F7 communication, max. 0 • usable for routing 0 - adjustable for routing 0 - reserved for routing 0 - adjustable for routing, max. 0  S7 message functions  Number of login stations for message functions, max. 119, Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Symbol-related messages Yes SCAN procedure Yes Process diagnostic messages Yes simultaneously active Alarm-S blocks, max. 1000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  **Process diagnostic messages Yes simultaneously active Alarm-S blocks, max. 1000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  **Process control messages Yes Number of instances for alarm 8 and S7 communication blocks, max. 1200  **Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages Yes  **Number of messages  **Overall, max. 1204  **In 100 ms grid, max. 128  **In 100 ms grid, max. 128  **In 100 ms grid, max. 128  **In 100 ms grid, max. 1024  **With 100 ms grid, max. 1024  **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		118
usable for S7 communication  reserved for S7 communication, max.  usable for routing  reserved for routing  reserved for routing  reserved for routing, max.  10  118  usable for routing  reserved for routing, max.  0  S7 message functions  Number of login stations for message functions, max.  119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  yes  SCAN procedure  Yes  SCAN procedure  Yes  Program alarms  Yes  Program alarms  Yes  Process diagnostic messages  Yes  Process diagnostic messages  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  1000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  o verall, max.  1 004  in 100 ms grid, max.  1 1024  in 100 ms grid, max.  1 228  in 1000 ms grid, max.  1 1024  with 500 ms grid, max.  1 1024  with 100 ms grid, max.  1 1024  with 100 ms grid, max.  1 1024  with 100 ms grid, max.  1 1024  with 500, 1000 ms grid, max.  1 1024  with 500, 1000 ms grid, max.  1 1024  with 100 ms grid, max.  1 1024  with 100 ms grid, max.  1 1024  with 500, 1000 ms grid, max.  1 1000 ms grid, max.  1 1000 ms grid, max.  1 1000 ms grid, max.	<ul> <li>reserved for S7 basic communication</li> </ul>	0
- reserved for S7 communication - adjustable for S7 communication, max.  • usable for routing - reserved for routing - adjustable for routing - adjustable for routing - adjustable for routing, max.   8	<ul> <li>adjustable for S7 basic communication, max.</li> </ul>	0
- adjustable for S7 communication, max.  • usable for routing - reserved for routing - adjustable for routing, max.  0  S7 message functions  Number of login stations for message functions, max.  119, Max. 119 with Alarm_S/SQ and Alarm_D/DQ (QPs); max. 16 with Alarm_Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Symbol-related messages Yes SCAN procedure Yes Program alarms Yes Program alarms Yes simultaneously active Alarm-S blocks, max.  1000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Alarm 8-blocks • Number of instances for alarm 8 and S7 communication blocks, max.  • preset, max.  • preset, max.  1200 Process control messages Yes  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages • o verall, max. • in 100 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max.  • with 100 ms grid, max. • with 500 ns grid, max. • with 500, 1000 ms grid, max.  • with 500, 1000 ms grid, max.  • with 500, 1000 ms grid, max.  • with 500 ns grid, max.  10	usable for S7 communication	118
usable for routing         — reserved for routing         — adjustable for routing, max.  S7 message functions  Number of login stations for message functions, max.  Number of login stations for message functions, max.  119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_B, 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  * Number of instances for alarm 8 and S7 communication blocks, max.  * preset, max.  1 200  Process control messages  Yes  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  • overall, max.  • in 100 ms grid, max.  • with 100 ms grid, max.	<ul> <li>reserved for S7 communication</li> </ul>	0
- reserved for routing - adjustable for routing, max. 0  S7 message functions  Number of login stations for message functions, max.	<ul> <li>adjustable for S7 communication, max.</li> </ul>	0
adjustable for routing, max.    Status block   SFB 37	usable for routing	59
S7 message functions	<ul> <li>reserved for routing</li> </ul>	0
Number of login stations for message functions, max.  119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8, Alarm_8, P. Notify and Notify_8 (e.g. WinCC)  Symbol-related messages  Yes  SCAN procedure  Program alarms  Yes  Process diagnostic messages  imultaneously active Alarm-S blocks, max.  1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  1 200  Process control messages  Yes  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  1 024  in 100 ms grid, max.  1 1024  in 100 ms grid, max.  1 28  in 500 ms grid, max.  1 1024  Number of additional values  with 100 ms grid, max.  with 500, 1000 ms grid, max.  with 500, 1000 ms grid, max.  with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously Single step  Yes  Number of breakpoints		
Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Symbol-related messages  Yes  SCAN procedure  Program alarms  Yes  Process diagnostic messages  simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  preset, max.  1 200  Process control messages  Yes  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 500 ms grid, max.  in 500 ms grid, max.  in 1000 ms grid, max.  in 1000 ms grid, max.  1 224  in 1000 ms grid, max.  1 224  in 1000 ms grid, max.  1 1024  in 1000 ms grid, max.  1 1024  with 100 ms grid, max.  with 500, 1000 ms grid, max.  with 500, 1000 ms grid, max.  1 10  Test commissioning functions  Status block  Yes  Number of breakpoints  16	<ul> <li>adjustable for routing, max.</li> </ul>	0
Symbol-related messages  SCAN procedure  Program alarms  Yes  Process diagnostic messages  simultaneously active Alarm-S blocks, max.  1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  1 200  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 1000 ms grid, max.  in		0
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 • Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. 1 200 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. 1 024 • in 100 ms grid, max. 1 128 • in 500 ms grid, max. 1 1024 Number of additional values • with 100 ms grid, max. 1 1024 Number of additional values • with 100 ms grid, max. 1 1024 Number of messages • with 500, 1000 ms grid, max. 1 1024 Status block Yes; Up to 16 simultaneously Single step Yes Number of breakpoints	S7 message functions	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm,
Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  preset, max.  Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages  o overall, max.  in 100 ms grid, max.  with 500, 1000 ms grid, max.  status block Yes; Up to 16 simultaneously Yes Number of breakpoints  16	S7 message functions  Number of login stations for message functions, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)
Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 10 ms grid, max.  in 1	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes
simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  1 200  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  o overall, max.  in 100 ms grid, max.  in 100 ms grid, max.  in 1000 ms grid, max.	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Yes  Yes
Alarm 8-blocks  • Number of instances for alarm 8 and S7 communication blocks, max.  • preset, max.  1 200  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  • overall, max.  • in 100 ms grid, max.  • in 500 ms grid, max.  • in 1000 ms grid, max.  • in 1000 ms grid, max.  • with 100 ms grid, max.  • with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes
Number of instances for alarm 8 and S7 communication blocks, max.     ● preset, max.     1 200  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages      ● overall, max.     ● in 100 ms grid, max.     ● in 500 ms grid, max.     ● in 1000 ms grid, max.     ● with 100 ms grid, max.      ● with 500, 1000 ms grid, max.      ● with 500, 1000 ms grid, max.      10  Test commissioning functions  Status block  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints  1 200  1 2	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes
blocks, max.  • preset, max.  1 200  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  • overall, max.  • in 100 ms grid, max.  • in 500 ms grid, max.  • in 100 ms grid, max.  1 024  Number of additional values  • with 100 ms grid, max.  • with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages  simultaneously active Alarm-S blocks, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks
● preset, max.         1 200           Process control messages         Yes           Number of archives that can log on simultaneously (SFB 37 AR_SEND)         64           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.           ● with 500, 1000 ms grid, max.         10           Test commissioning functions         Yes; Up to 16 simultaneously           Status block         Yes; Up to 16 simultaneously           Single step         Yes           Number of breakpoints         16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages  simultaneously active Alarm-S blocks, max.  Alarm 8-blocks	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes
Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 100 ms grid, max.  in 1000 ms grid, max.  in 1000 ms grid, max.  viin 1000 ms grid, max.  1024  Number of additional values  with 100 ms grid, max.  in 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints  16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages  simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  • Number of instances for alarm 8 and S7 communication	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  • overall, max. • in 100 ms grid, max. • in 500 ms grid, max. • in 1000 ms grid, max. • in 1000 ms grid, max.  • with 100 ms grid, max. • with 500, 1000 ms grid, max.  • with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Yes  Number of breakpoints	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages  simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  • Number of instances for alarm 8 and S7 communication blocks, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000
AR_SEND)         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 16 simultaneously         Single step       Yes         Number of breakpoints       16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages  simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  • Number of instances for alarm 8 and S7 communication blocks, max.  • preset, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Yes  Yes  Yes  Yes  1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks  Yes  10 000
<ul> <li>overall, max.</li> <li>in 100 ms grid, max.</li> <li>in 500 ms grid, max.</li> <li>in 1000 ms grid, max.</li> <li>in 1000 ms grid, max.</li> <li>1 024</li> <li>Number of additional values</li> <li>with 100 ms grid, max.</li> <li>with 500, 1000 ms grid, max.</li> <li>with 500, 1000 ms grid, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Yes; Up to 16 simultaneously</li> <li>Single step</li> <li>Number of breakpoints</li> <li>16</li> </ul>	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  • Number of instances for alarm 8 and S7 communication blocks, max.  • preset, max.  Process control messages	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes
in 100 ms grid, max.     in 500 ms grid, max.     in 1000 ms grid, max.     in 1000 ms grid, max.     1024  Number of additional values     with 100 ms grid, max.     with 500, 1000 ms grid, max.     with 500, 1000 ms grid, max.      Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints  16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes
<ul> <li>in 500 ms grid, max.</li> <li>in 1000 ms grid, max.</li> <li>1 024</li> <li>Number of additional values</li> <li>with 100 ms grid, max.</li> <li>with 500, 1000 ms grid, max.</li> <li>with 500, 1000 ms grid, max.</li> <li>10</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Yes; Up to 16 simultaneously</li> <li>Single step</li> <li>Number of breakpoints</li> <li>16</li> </ul>	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes
in 1000 ms grid, max.  Number of additional values  with 100 ms grid, max.  with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints  1024	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64
Number of additional values  • with 100 ms grid, max.  • with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints  16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64
● with 100 ms grid, max.  ■ with 500, 1000 ms grid, max.  10  Test commissioning functions  Status block  Yes; Up to 16 simultaneously  Single step  Number of breakpoints  16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64
● with 500, 1000 ms grid, max.  Test commissioning functions  Status block Yes; Up to 16 simultaneously Single step Yes Number of breakpoints  16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 500 ms grid, max.  in 1000 ms grid, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64
Test commissioning functions  Status block Yes; Up to 16 simultaneously  Single step Yes  Number of breakpoints 16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 500 ms grid, max.  in 1000 ms grid, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64
Status block Yes; Up to 16 simultaneously Single step Yes Number of breakpoints 16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 500 ms grid, max.  in 1000 ms grid, max.  Number of additional values	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64 1 024 128 512 1 024
Single step Yes Number of breakpoints 16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 1000 ms grid, max.  in 1000 ms grid, max.  with 1000 ms grid, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64  1 024 128 512 1 024
Number of breakpoints 16	S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 1000 ms grid, max.  vin 1000 ms grid, max.  with 100 ms grid, max.  with 100 ms grid, max.  with 500, 1000 ms grid, max.	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64  1 024 128 512 1 024
	Number of login stations for message functions, max.  Symbol-related messages SCAN procedure Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks • Number of instances for alarm 8 and S7 communication blocks, max.  • preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages • overall, max. • in 100 ms grid, max. • in 500 ms grid, max. • in 1000 ms grid, max.  Number of additional values • with 100 ms grid, max. • with 500, 1000 ms grid, max.  Test commissioning functions	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64  1 024 128 512 1 024
Status/control	Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms  Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 1000 ms grid, max.  in 1000 ms grid, max.  with 100 ms grid, max.  with 500, 1000 ms grid, max.  with 500, 1000 ms grid, max.  Test commissioning functions  Status block	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64  1 024 128 512 1 024  1 10 Yes; Up to 16 simultaneously
	Number of login stations for message functions, max.  Symbol-related messages SCAN procedure Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max.  Alarm 8-blocks  Number of instances for alarm 8 and S7 communication blocks, max.  preset, max.  Process control messages  Number of archives that can log on simultaneously (SFB 37 AR_SEND)  Number of messages  overall, max.  in 100 ms grid, max.  in 1000 ms grid, max.  in 1000 ms grid, max.  with 100 ms grid, max.  with 500, 1000 ms grid, max.  with 500, 1000 ms grid, max.  Test commissioning functions  Status block Single step	119; Max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 10 000 1 200 Yes 64  1 024 128 512 1 024  1 10  Yes; Up to 16 simultaneously Yes

<ul> <li>Status/control variable</li> </ul>	Yes; Up to 16 variable tables
<ul><li>Variables</li></ul>	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of variables, max.	70; Status/control
Forcing	
<ul><li>Forcing</li></ul>	Yes
<ul><li>Forcing, variables</li></ul>	Inputs, outputs, bit memories, peripheral inputs, peripheral outputs
Number of variables, max.	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	ATEX II OC EXTINUIO 14 CC
Ambient temperature during operation	0 °C
• min.	
• max.	60 °C
configuration / header	
Configuration software	V
Configuration software  • STEP 7	Yes
Configuration software  • STEP 7  configuration / programming / header	
Configuration software  • STEP 7  configuration / programming / header  • Command set	see instruction list
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels	see instruction list
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image	see instruction list 7 Yes
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image  • System functions (SFC)	see instruction list 7 Yes see instruction list
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image  • System functions (SFC)  • System function blocks (SFB)	see instruction list 7 Yes
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image  • System functions (SFC)	see instruction list 7 Yes see instruction list
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels Access to consistent data in process image System functions (SFC) System function blocks (SFB)	see instruction list 7 Yes see instruction list
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD	see instruction list 7 Yes see instruction list see instruction list
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image  • System functions (SFC)  • System function blocks (SFB)  Programming language  — LAD  — FBD  — STL	see instruction list 7 Yes see instruction list see instruction list
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image  • System functions (SFC)  • System function blocks (SFB)  Programming language  — LAD  — FBD	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes
Configuration software  • STEP 7  configuration / programming / header  • Command set  • Nesting levels  • Access to consistent data in process image  • System functions (SFC)  • System function blocks (SFB)  Programming language  — LAD  — FBD  — STL	see instruction list 7 Yes see instruction list see instruction list Yes Yes Yes
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously activ  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD  WR_DPARM	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD  WR_DPARM  DPNRM_DG	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD  WR_DPARM  DPNRM_DG  RDSYSST	see instruction list 7 Yes see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD  WR_DPARM  DPNRM_DG  RDSYSST  DP_TOPOL	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD  WR_DPARM  DPNRM_DG  RDSYSST  DP_TOPOL  configuration / programming / number of simultaneously active	see instruction list 7 Yes see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software  STEP 7  configuration / programming / header  Command set  Nesting levels  Access to consistent data in process image  System functions (SFC)  System function blocks (SFB)  Programming language  LAD  FBD  STL  SCL  CFC  GRAPH  HiGraph®  configuration / programming / number of simultaneously active  DPSYC_FR  D_ACT_DP  RD_REC  WR_REC  WR_PARM  PARM_MOD  WR_DPARM  DPNRM_DG  RDSYSST  DP_TOPOL	see instruction list 7 Yes see instruction list see instruction list  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye

Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
<ul> <li>Block encryption</li> </ul>	Yes; With S7 block Privacy
Dimensions	
Width	50 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	900 g

last modified: 4/26/2024 **C**