SIEMENS

Data sheet

6ES7417-5HT06-0AB0



SIMATIC S7-400H, CPU 417-5H, central processing unit for S7-400H and S7-400F/FH, 5 interfaces: 1x MPI/DP, 1x DP, 1x PN and 2 for sync modules, 32 MB memory (16 MB data/16 MB program)

General information	
Product type designation	CPU 417-5H PN/DP
HW functional status	1
Firmware version	V6.0
Product function	
Isochronous mode	No
Engineering with	
 Programming package 	As of STEP 7 V5.5 SP2 with HF1
CiR - Configuration in RUN	
CiR synchronization time, basic load	60 ms
CiR synchronization time, time per I/O byte	0 μs
Supply voltage	
Rated value (DC)	Power supply via system power supply
Input current	
from backplane bus 5 V DC, typ.	1.6 A
from backplane bus 5 V DC, max.	1.9 A
from backplane bus 24 V DC, max.	150 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	7.5 W
Memory	
Type of memory	RAM
Work memory	
integrated	32 Mbyte
integrated (for program)	16 Mbyte
integrated (for data)	16 Mbyte
expandable	No
Load memory	
 expandable FEPROM 	Yes; with Memory Card (FLASH)
 expandable FEPROM, max. 	64 Mbyte
integrated RAM, max.	1 Mbyte
 expandable RAM 	Yes
expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
with battery	Yes; all data
without battery	No
Battery	
Backup battery	
 Backup current, typ. 	180 μA; Valid up to 40°C

Backup current, max.	1 000 μΑ
Backup time, max.	Dealt with in the module data manual with the secondary conditions and the factors of influence
 Feeding of external backup voltage to CPU 	5 V DC to 15 V DC
CPU processing times	0.150.0.150
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	10 110
DB	
Number, max.	16 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	O+ KDylo
Number, max.	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	· najto
Number, max.	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	,
Number, max.	see instruction list
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	8; OB 10-17
Number of delay alarm OBs	4; OB 20-23
Number of cyclic interrupt OBs	9; OB 30-38
Number of process alarm OBs	8; OB 40-47
Number of DPV1 alarm OBs	3; OB 55-57
Number of startup OBs	2; OB 100, 102
Number of asynchronous error OBs	9; OB 80-88
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	-, ·- ·, ·
per priority class	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
p	
• Type	SFB
·	SFB Unlimited (limited only by RAM capacity)
• Type	
Type Number	
TypeNumberS7 times	Unlimited (limited only by RAM capacity)
TypeNumberS7 timesNumber	Unlimited (limited only by RAM capacity)
TypeNumberS7 timesNumberRetentivity	Unlimited (limited only by RAM capacity) 2 048
 Type Number S7 times Number Retentivity — adjustable 	Unlimited (limited only by RAM capacity) 2 048 Yes
 Type Number S7 times Number Retentivity — adjustable — preset 	Unlimited (limited only by RAM capacity) 2 048 Yes
 Type Number Number Retentivity — adjustable — preset Time range 	Unlimited (limited only by RAM capacity) 2 048 Yes No times retentive
 Type Number Number Retentivity adjustable preset Time range lower limit 	Unlimited (limited only by RAM capacity) 2 048 Yes No times retentive 10 ms
 Type Number S7 times Number Retentivity — adjustable — preset Time range — lower limit — upper limit 	Unlimited (limited only by RAM capacity) 2 048 Yes No times retentive 10 ms
 Type Number S7 times Number Retentivity — adjustable — preset Time range — lower limit — upper limit IEC timer 	Unlimited (limited only by RAM capacity) 2 048 Yes No times retentive 10 ms 9 990 s
 Type Number Number Retentivity — adjustable — preset Time range — lower limit — upper limit IEC timer present 	Unlimited (limited only by RAM capacity) 2 048 Yes No times retentive 10 ms 9 990 s Yes
 Type Number Number Retentivity — adjustable — preset Time range — lower limit — upper limit IEC timer present Type 	Unlimited (limited only by RAM capacity) 2 048 Yes No times retentive 10 ms 9 990 s Yes SFB

Flag	
• Size, max.	16 384 byte
Retentivity available	Yes
Retentivity available Retentivity preset	MB 0 to MB 15
Number of clock memories	8; in 1 memory byte
Local data	o, in a monory byte
adjustable, max.	64 kbyte
• preset	32 kbyte
Address area	02 hbyte
I/O address area	
• Inputs	16 kbyte
Outputs	16 kbyte
Process image	10 kbyte
Inputs, adjustable	16 kbyte
Outputs, adjustable	16 kbyte
Inputs, default	1 024 byte
Outputs, default	1 024 byte
consistent data, max.	244 byte
Access to consistent data in process image	Yes
Subprocess images	
Number of subprocess images, max.	15
Digital channels	
• Inputs	131 072
— of which central	131 072
Outputs	131 072
— of which central	131 072
Analog channels	
• Inputs	8 192
— of which central	8 192
 Outputs 	8 192
of which central	8 192
Hardware configuration	
Number of expansion units, max.	21
connectable OPs	119
Multicomputing	No
Interface modules	
Number of connectable IMs (total), max.	6
 Number of connectable IM 460s, max. 	6
 Number of connectable IM 463s, max. 	4; Single mode only
Number of DP masters	
• integrated	2
• via CP	10; CP 443-5 Extended
Mixed mode IM + CP permitted	No
via interface module	0
Number of IO Controllers	
• integrated	1
• via CP	0
Number of operable FMs and CPs (recommended)	
• FM	See manual Automation System S7-400H fault-tolerant systems. Limited by number of slots and number of connections
• CP, PtP	See manual Automation System S7-400H fault-tolerant systems. Limited by number of slots and number of connections
PROFIBUS and Ethernet CPs	14; Of which max. 10 CP as DP master
Slots	
• required slots	2
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Resolution	1 ms
 Deviation per day (buffered), max. 	1.7 s; Power off

Deviation per day (unbuffered), max.	8.6 s; Power on
Operating hours counter	0.0 0, 1 0.00 0.1
	16
	0 to 15
-	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
· ·	1 h
·	Yes
Clock synchronization	163
·	Yes
	Yes
	Yes
·	Yes
	Yes
	Yes
·	Yes
	Yes; As client
Time difference in system when synchronizing via	100,710 010110
	10 ms; Via NTP
	200 ms
Interfaces	
	2
	2; Fiber-optic interface
	No
1. Interface	110
	MPI/PROFIBUS DP
21	Yes
Interface types	165
	Yes
	150 mA
Protocols	130 IIIA
	Yes
	Yes
	No
MPI	INO
	44; 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
Services	
— PG/OP communication	Yes
— Routing	Yes
Global data communication	No
— S7 basic communication	No
— S7 communication	110
O7 COMMUNICATION	Yes
— S7 communication, as client	Yes
— S7 communication, as client	Yes Yes
 — S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. 	Yes Yes Yes 32; If a diagnostics repeater is used on the line, the number of connection
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max.	Yes Yes Yes 32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max.	Yes Yes 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
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices	Yes Yes Yes 32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services	Yes Yes 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
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication	Yes Yes Yes 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 Yes
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication — Routing	Yes Yes 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 Yes Yes
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication — Routing — Global data communication	Yes Yes 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 Yes Yes No
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • max. number of DP devices Services — PG/OP communication — Routing — Global data communication — S7 basic communication	Yes Yes 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 Yes Yes No No
— S7 communication, as client — S7 communication, as server PROFIBUS DP master • 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	Yes Yes 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 Yes Yes No No No Yes
- S7 communication, as client - S7 communication, as server PROFIBUS DP master 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	Yes Yes 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 Yes Yes No No
- S7 communication, as client - S7 communication, as server PROFIBUS DP master 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	Yes Yes 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 Yes Yes No No No Yes
- S7 communication, as client - S7 communication, as server PROFIBUS DP master • 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	Yes Yes 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 Yes Yes Yes Yes Yes No No No Yes Yes
- S7 communication, as client - S7 communication, as server PROFIBUS DP master • 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	Yes Yes 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 Yes Yes Yes Yes Yes Yes Yes Yes Yes

— activation/deactivation of DP devices	No
 — Direct data exchange (slave-to-slave communication) 	No
— DPV1	Yes
Address area	165
	2 kbyte
— Inputs, max.	
— Outputs, max.	2 kbyte
User data per DP device	044 h. 4-
— user data per DP device, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
1st interface / PROFIBUS DP device / header	No see for water of ODU se DD slave
Number of connections	No configuration of CPU as DP slave
2. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes; Autosensing
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	No
Interface types	
RJ 45 (Ethernet)	Yes
 Number of ports 	2
integrated switch	Yes
Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	No
PROFINET CBA	No
 PROFIBUS DP master 	No
 PROFIBUS DP device 	No
Open IE communication	Yes
Web server	No
 Point-to-point connection 	No
Media redundancy	Yes
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 communication	Yes
— Isochronous mode	No
— Shared device	Yes; Single mode only
— Prioritized startup	No
 Number of connectable IO Devices, max. 	256; In redundant mode via both interfaces
 Number of connectable IO Devices for RT, max. 	256
— of which in line, max.	256
 Activation/deactivation of IO Devices 	No
 — IO Devices changing during operation (partner ports), supported 	No
 Device replacement without swap medium 	Yes
— Send cycles	250 μs, 500 μs, 1 ms, 2 ms, 4 ms
— Updating time	$250~\mu s$ to 512 ms, minimum value depends on the number of configured user data and the configured single or redundant mode
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
— User data consistency, max.	1 024 byte
Open IE communication	
 Number of connections, max. 	118
 Local port numbers used at the system end 	0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534,
	65535

 Keep-alive function, supported 	Yes
3. Interface	
Interface type	PROFIBUS DP
Interface types	Thomboo bi
• RS 485	Yes
Output current of the interface, max.	150 mA
Protocols	130 111A
PROFIBUS DP master	Yes
PROFIBUS DP device	No
PROFIBUS DP master	140
Number of connections, max.	32
,	12 Mbit/s
Transmission rate, max.max. number of DP devices	125
Services	123
	Van
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	No V
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Equidistance	No
— Isochronous mode	No
— SYNC/FREEZE	No
 activation/deactivation of DP devices 	No
 Direct data exchange (slave-to-slave communication) 	No
— DPV0	Yes
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP device	
user data per DP device, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
4. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
5. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
Protocols	
Redundancy mode	
Media redundancy	
Switchover time on line break, typ.	200 ms
Number of stations in the ring, max.	50
SIMATIC communication	
• S7 routing	Yes
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
Number of connections, max.	118
— Data length, max.	32 kbyte
several passive connections per port, supported	Yes
ISO-on-TCP (RFC1006)	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs
Number of connections, max.	118
— Data length, max.■ UDP	32 kbyte; 1 452 bytes via CP 443-1 Adv.
— Number of connections, max.	Yes; via integrated PROFINET interface and loadable FBs
— Number of Connections, max.	118

** supported No	— Data length, max.	1 472 byte
Excitionations in the communication Yes 119, When using Alarm_S/SO and Alarm_D/DO 14, Whither of connectable OPs with message processing 119, When using Alarm_S/SO and Alarm_D/DO 14, Whither of connectable OPs whout message processing 119 120	Web server	
Equidatance No communication functions / header PGOP communication • Number of connectable OPs with message processing • Number of connectable OPs without message processing 119. When using Alarm_SISO and Alarm_DIDO (Pe); max. 19. When Alarm_SISO and Alarm DIDO (Pe); max. 19. When Alarm_SISO and Al	supported	No
Communication functions / bradder PGIOP communication * Number of connectable OPs with message processing * Number of connectable OPs without message processing * Number of connectable OPs without message processing * State communication * supported * User data per job, max. * Standard communication * Number of connections * usapported * User data per job, max. * User data per job, or divinich consistent), max. * User data per job, or divinich consistent), max. * User data per job (or which consistent), max. * User data per job (or which consistent), max. * User data per job, or divinich consistent), max. * User data per job, or divinich consistent), max. * User data per job, or divinich consistent), max. * User data per job (or which consistent), max. * User data per job (or which consistent), max. * User data per job, or max. * User data per job, or max. * User data per job, max.	Isochronous mode	
POLIP communication Number of connectable OPs with message processing Number of connectable OPs with message processing Number of connectable OPs without message processing Post account routing Number of connectable OPs without message processing Number of connectable OPs without message processing Number of connectable OPs without message processing Number of connectable OPs without one of the process of the proce	Equidistance	No
Number of connectable OPs with message processing No record routing Obta record routing Obta record routing Ves Supported Sommunication Sommunicatio	communication functions / header	
** Number of connectable OPs without message processing Data record routing Yes Stokes idsis communication ** upported No 7	PG/OP communication	Yes
Data record routing Size and data communication • supported No ST basic communication • supported • sup	 Number of connectable OPs with message processing 	119; When using Alarm_S/SQ and Alarm_D/DQ
Stock State Stat	 Number of connectable OPs without message processing 	119
Stroad communication Stroamunication	Data record routing	Yes
### ST basic communication # supported # s	Global data communication	
supported supported supported supported supported supported subserver sa client ves sa server ves sa server ves sa server ves sa scrient ves ves ves subser data per job, max. ves ve	• supported	No
ST communication • 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. • Stoompatible communication • supported • User data per job, max. • User data per job, max. • User data per job (which consistent), max. • User data per job (of which consistent), max. • User data per job (which consistent), max. • User data per job (of which consistent), max. • User (of Communication) • The reserved for FO communication, max. • User (of PC communication) • The reserved for FO communication, max. • User (of PC communication) • The reserved for FO communication, max. • User (of PC communication) • The reserved for FO communication, max. • User (of PC communication) • The reserved for FO communication, max. • User (of PC communication) • The reserved for FO communication, max. • User (of PC communication) • The reserved for FO communication, max. • User (of PC communication) • The rese	S7 basic communication	
supported as server as client ves	• supported	No
as client User data per job, max. User data per job, for which consistent), max. 55 compatible communication supported User data per job, of which consistent), max. Supported User data per job, of which consistent), max. Super data per job, of which consistent), max. Subser data per job, of which consistent), max. Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. Standard communication (FMS) supported Ves: (via CP max. 10 and FC AG_SEND and FC AG_RECV) Supported Ves: (via CP and loadable FB Number of connections voverall Usuable for PG communication - reserved for ST basic communication - reserved for ST basic communication - reserved for ST communication - r	S7 communication	
• 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, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • User data per job, god (which consistent), max. • Standard communication (FMS) • Supported • Supported • Supported • Supported • Standard communication (FMS) • Supported	supported	Yes
User data per job, max. User data per job (of which consistent), max. **St compatible communication** **supported** User data per job, max. User User data per job, max. User User User User User User User User	• as server	Yes
User data per job (of which consistent), max. So compatible communication Supported User data per job, max. User data per job, max. User data per job, max. User data per job (of which consistent), max. Uses deformed for for which consistent, max. Uses defor PG communication (FMS) Uses defor PG communication Uses defor PG communication Uses defor PG communication (PGC) Uses defor PGC communication (PGC) U	• as client	Yes
Sis compatible communication • Supported • User data per job, max. • User data per job (of which consistent), max. • Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. Standard communication (FMS) • Supported • Ves; Via CP and loadable FB Number of connections • overall • usable for PG communication — reserved for PG communication — adjustable for PG communication — reserved for OP communication — reserved for OP communication — reserved for OP communication — reserved for ST basic communication — adjustable for ST basic communication — reserved for ST osmunication — reserved for ST communication — reserved for store to store	 User data per job, max. 	64 kbyte
supported User data per job, max. User data per job (of which consistent), max. Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. Standard communication (FMS) supported ves; Via CP and loadable FB Number of connections overall usable for PG communication — reserved for PG communication — adjustable for PG communication — reserved for PG communication — reserved for PG communication — adjustable for OP communication — reserved for PG communication — adjustable for S7 basic communication — reserved for PG solic communication — adjustable for S7 basic communication — adjustable for S7 communication — reserved for PG solic communication — adjustable for S7 communication — reserved for PG communication — reserved for S7 basic communication — adjustable for S7 communication — reserved for S7 basic communication — adjustable for S7 communication — reserved for S7 communication — reserved for S7 communication — adjustable for routing — reserved for FG communication — adjustable for routing — reserved for FG communication — adjustable for routing — reserved for S7 communication — reserved for FG communication No — reserved for FG communication — reserved for FG communication — reserved for FG communication — reserved	User data per job (of which consistent), max.	462 byte; 1 variable
User data per job, max. User data per job (of which consistent), max. Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. Standard communication (FMS) supported Yes; Via CP and loadable FB Number of connections overall usable for PG communication reserved for PG communication reserved for OP communication reserved for OP communication reserved for S7 basic communication reserved for S7 basic communication reserved for S7 basic communication reserved for S7 communication reserved for S7 communication order of S7 communication reserved for s8 communication reserved for s7 communication reserved for s7 communication reserved for s7 communication reserved for s7 communication reserved for s8 communication reserved for s8 communication reserved for s8 communication reserved for s8 communication	S5 compatible communication	
User data per job (of which consistent), max. Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. Standard communication (FMS) Supported Ves; Via CP and loadable FB Number of connections voveral usable for PG communication reserved for PG communication reserved for PG communication reserved for PC communication reserved for PC communication reserved for OP communication reserved for OP communication reserved for OP communication reserved for S7 basic communication reserved for S7 communication reserved for s0 communication reserved for S7 communication reserved for s0 communication reserved for S7 communication reserved for routing reserved for S7 communication reserved for S7	• supported	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)
Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. Standard communication (FMS) • supported Number of connections • overall • usable for PG communication — reserved for PG communication — adjustable for PG communication — reserved for OP communication — reserved for ST basic communication — adjustable for ST basic communication — reserved for ST basic communication — reserved for ST basic communication — reserved for ST basic communication — adjustable for ST communication — reserved for sT communication — adjustable for routing — reserved for routing — reserved for routing — reserved for routing — adjustable for routing, max. 0 ST message functions Number of login stations for message functions, max. Alam _8, Alam _8P, Notify and Notify _8 (e.g. WinCC) Symbol-related messages No SCAN procedure No Program alarms Yes Process diagnostic messages Yes simultaneously active Alarm _5 blocks or alarm _D/DQ blocks Yes Simultaneously active Alarm _5 blocks or alarm _D/DQ blocks Yes Number of instances for alarm 8 and ST communication blocks, max. 1 000; Simultaneously active alarm _S/SQ blocks or alarm _D/DQ blocks Yes Number of instances for alarm 8 and ST communication blocks, max. 1 200 Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR, SEND) Test commissioning (unctions	 User data per job, max. 	8 kbyte
CPU, max. Standard communication (FMS) • supported Yes; Via CP and loadable FB Number of connections • overall 120 • usable for PG communication — reserved for PG communication 1 — adjustable for PG communication 1 — reserved for OP communication 1 — adjustable for OP communication 1 — reserved for OP communication 1 — adjustable for OP communication 0 — reserved for SP basic communication 0 — adjustable for SP basic communication 0 — adjustable for SP basic communication 0 — adjustable for SP to basic communication 0 — adjustable for SP communication 0 — adjustable for routing 0 — reserved for routing 0 — adjustable for routing, max. 0 SP message functions Number of login stations for message functions, max. 119, max. 119 with Alarm_SiSQ and Alarm_DiDQ (DPs); max. 16 with Alarm_SP, Notify and Notify_8 (e.g. WinCC) Symbol-related messages No SCAN procedure No Process diagnostic messages Yes simultaneously active Alarm_S blocks, max. 1000; Simultaneously active alarm_SiSQ blocks or alarm_DiDQ blocks Process diagnostic messages Yes simultaneously active Alarm_S blocks, max. 1000; Simultaneously active alarm_SiSQ blocks or alarm_DiDQ blocks Process diagnostic messages Yes simultaneously active Alarm_S blocks, max. 1000; Simultaneously active alarm_SiSQ blocks or alarm_DiDQ blocks Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR, SEND) Test commissioning functions	 User data per job (of which consistent), max. 	240 byte
Standard communication (FMS) • supported • supported • verall • usable for PG communication — reserved for PG communication — adjustable for PG communication — adjustable for PG communication — reserved for OP communication — reserved for OP communication — reserved for PG spasic communication — reserved for S7 basic communication — adjustable for S7 basic communication — adjustable for S7 basic communication — reserved for S7 communication — adjustable for S7 communication, max. • Vessphot-related message functions, max. 113; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8, Alarm_8, Alarm_8, Notify and Notify_8 (e.g. WinCC) Symbol-related messages No SCAN procedure No Program alarms Yes Srocess diagnostic messages Yes simultaneously active Alarm_S/SQ blocks or alarm_D/DQ blocks Process diagnostic messages Yes simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Process diagnostic 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) Test commissioning functions		64/64
Supported Number of connections overall usable for PG communication - reserved for PG communication, max. usable for PO communication - adjustable for OP communication, max. usable for OP communication - reserved for OP communication - adjustable for OP communication, max. usable for S7 basic communication - reserved for S7 basic communication - adjustable for S7 basic communication - adjustable for S7 basic communication - adjustable for S7 communication - adjustable for S7 communication - adjustable for S7 communication - reserved for S7 communication - adjustable for S7 communication - adjustable for routing - reserved for S7 communication - adjustable for routing - reserved for S7 communication - adjustable for routing - reserved for routing - adjustable for routing - reserved for S7 communication, 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_S, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Symbol-related messages No SCAN procedure No 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 Yes simultaneously active Alarm_S blocks or alarm 8 and S7 communication blocks, max. 1 200 Process control messages Number of instances for alarm 8 and S7 communication blocks, max. 1 200 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions		
Number of connections ■ overall ■ usable for PG communication	·	V V 00 11 111 50
overall ovariall ovarialling ovariall		Yes; Via CP and loadable FB
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Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions 64	·	Yes
Test commissioning functions	Number of archives that can log on simultaneously (SFB 37	64
	Status block	Yes

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
Number of variables, max.	70
Forcing	
Forcing	Yes
Forcing, variables	Inputs/outputs, bit memories, distributed I/Os
Number of variables, max.	512
Diagnostic buffer	
• present	Yes
 Number of entries, max. 	3 200
— adjustable	Yes
— preset	120
Service data	
can be read out	Yes
EMC	
Emission of radio interference acc. to EN 55 011	
Limit class A, for use in industrial areas	Yes
Limit class B, for use in residential areas	No
configuration / header	
Configuration software	
• STEP 7	Yes
configuration / programming / header	
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
configuration / programming / number of simultaneously a	
— RD_REC	8
— WR_REC	8
— WR_PARM	8
— PARM_MOD	1
— WR_DPARM	2
— DPNRM_DG	8
— RDSYSST	8
— DP_TOPOL	1
configuration / programming / number of simultaneously a	
— RDREC	8
— WRREC	8
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.	995 g
last modified:	12/8/2024 🖸

