



SIMATIC S7-400H,
CPU 417H CENTRAL UNIT FOR S7-400H 4 INTERFACES:
1 MPI/DP,
1 DP A. 2 FOR SYNC MODULES 20MB MEMORY (10MB
CODE/10MB DATA)

Supply voltage	
24 V DC	Yes
Input current	
from backplane bus 5 V DC, max.	1.7 A
Power loss	
Power loss, typ.	6 W
Memory	
Work memory	
integrated	20 Mbyte
expandable	No
Load memory	
expandable FEPRM	Yes ; with Memory Card (FLASH)
expandable FEPRM, max.	64 Mbyte
integrated RAM, max.	256 kbyte
expandable RAM	Yes ; with Memory Card (RAM)
expandable RAM, max.	16 Mbyte
Backup	
present	Yes

with battery	Yes ; all data
without battery	No
Battery	
Backup battery	
Backup current, typ.	600 µA
Backup current, max.	1810 µA
Feeding of external backup voltage to CPU	5 to 15 VDC
CPU processing times	
for bit operations, typ.	0.03 µs
for word operations, typ.	0.03 µs
for fixed point arithmetic, typ.	0.03 µs
for floating point arithmetic, typ.	0.09 µs
CPU-blocks	
DB	
Number, max.	8192 ; DB 0 reserved
FB	
Number, max.	6144
Size, max.	64 kbyte
FC	
Number, max.	6144
Size, max.	64 kbyte
OB	
Number, max.	see instruction list
Size, max.	64 kbyte
Nesting depth	
per priority class	24
additional within an error OB	2
Counters, timers and their retentivity	
S7 counter	
Number	2048
Retentivity	
adjustable	Yes
lower limit	0
upper limit	2047
preset	Z 0 to Z 7
Counting range	
lower limit	1
upper limit	999

IEC counter	
present	Yes
Type	SFB
S7 times	
Number	2048
Time range	
lower limit	10 ms
upper limit	9990 s
IEC timer	
present	Yes
Type	SFB
Data areas and their retentivity	
Flag	
Number, max.	16 kbyte
Retentivity available	Yes ; MB 0 to MB 16383
Retentivity preset	MB 0 to MB 15
Data blocks	
Number, max.	8192 ; DB 0 reserved
Size, max.	64 kbyte
Address area	
I/O address area	
Inputs	16 kbyte
Outputs	16 kbyte
of which distributed	
MPI/DP interface, inputs	2 kbyte
MPI/DP interface, outputs	2 kbyte
DP interface, inputs	8 kbyte
DP interface, outputs	8 kbyte
Process image	
Inputs, adjustable	16 kbyte
Outputs, adjustable	16 kbyte
Inputs, default	1024 byte
Outputs, default	1024 byte
Subprocess images	
Number of subprocess images, max.	8
Digital channels	
Inputs	131072
Outputs	131072

Inputs, of which central	131072
Outputs, of which central	131072
Analog channels	
Inputs	8192
Outputs	8192
Inputs, of which central	8192
Outputs, of which central	8192
Hardware configuration	
Expansion devices, max.	21
Multicomputing	No
Interface modules	
Number of connectable IMs (total), max.	6
Number of connectable IM 460s, max.	6
Number of connectable IM 463s, max.	6 ; IM 463-2
Number of DP masters	
integrated	2
via IM 467	0
via CP	10
Mixed mode IM + CP permitted	No ; IM 467 cannot be used jointly with CP 443-5 Ext.
via interface module	0
Number of operable FMs and CPs (recommended)	
FM	64 ; Limited by number of slots and number of connections
CP, point-to-point	64 ; Limited by number of slots and number of connections
CP, LAN	64 ; Limited by number of slots and number of connections
Slots	
required slots	2
Time of day	
Clock	
Hardware clock (real-time clock)	Yes
battery-backed and synchronizable	Yes
Operating hours counter	
Number	8
Clock synchronization	
supported	Yes
1. Interface	
Physics	RS 485 / PROFIBUS
isolated	Yes
Functionality	

MPI	Yes ; Default setting
DP master	Yes
DP slave	No
MPI	
Number of connections	44
Transmission rate, max.	12 Mbit/s
Services	
PG/OP communication	Yes
Global data communication	No
S7 basic communication	No
S7 communication	Yes
S7 communication, as client	Yes
S7 communication, as server	Yes
DP master	
Number of connections, max.	32
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	32 ; Number of slots, max. 512
Services	
PG/OP communication	Yes
Global data communication	No
S7 basic communication	No
S7 communication	No
S7 communication, as client	No
S7 communication, as server	No
Equidistance mode support	No
SYNC/FREEZE	No
Activation/deactivation of DP slaves	No
Direct data exchange (slave-to-slave communication)	No
Address area	
Inputs, max.	2 kbyte
Outputs, max.	2 kbyte
User data per DP slave	
Inputs, max.	244 byte
Outputs, max.	244 byte
2. Interface	
Physics	RS 485 / PROFIBUS
isolated	Yes
Functionality	

DP master	Yes
DP slave	No
Point-to-point connection	No
DP master	
Number of connections, max.	32
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	125 ; Number of slots, max. 2048
Services	
PG/OP communication	Yes
Global data communication	No
S7 basic communication	No
S7 communication	No
S7 communication, as client	No
S7 communication, as server	No
Equidistance mode support	No
SYNC/FREEZE	No
Activation/deactivation of DP slaves	No
Direct data exchange (slave-to-slave communication)	No
Address area	
Inputs, max.	8 kbyte
Outputs, max.	8 kbyte
User data per DP slave	
Inputs, max.	244 byte
Outputs, max.	244 byte
Communication functions	
PG/OP communication	Yes
Global data communication	
supported	No
S7 basic communication	
supported	No
S7 communication	
supported	Yes
as server	Yes
as client	Yes
User data per job, max.	64 kbyte
S5 compatible communication	
supported	Yes ; via CP and loadable FC
User data per job, max.	8 kbyte

Standard communication (FMS)	
supported	Yes ; Via CP and loadable FB
User data per job, max.	Dependent on CP
Number of connections	
overall	64
usable for PG communication	
reserved for PG communication	1
adjustable for PG communication, max.	0
usable for OP communication	
reserved for OP communication	1
adjustable for OP communication, max.	0
usable for S7 basic communication	
reserved for S7 basic communication	0
adjustable for S7 basic communication, max.	0
usable for routing	
reserved for routing	0
adjustable for routing, max.	0
S7 message functions	
Number of login stations for message functions, max.	16
Configuration	
Configuration software	
STEP 7	Yes ; V5.0 SP2
Programming	
Programming language	
LAD	Yes
FBD	Yes
STL	Yes
SCL	Yes
CFC	Yes
GRAPH	Yes
HiGraph®	Yes
Know-how protection	
User program protection/password protection	Yes
Dimensions	
Width	50 mm
Height	290 mm
Depth	219 mm
Weights	

Weight, approx.

1070 g

Status

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