

OFFICIAL MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

6ES7414-4HM14-0AB0

Siemens official documentation for the exact article number.

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Selected official Siemens pages follow this cover.

SIMATIC S7-400H, CPU 414H central processing unit for S7-400H and S7-400F/FH, 4 interfaces: 1 MPI/DP, 1 DP and 2 for sync modules, 2.8 MB memory (1.4 MB data/1.4 MB program)



Figure similar

General information	
Product type designation	CPU 414-4H
HW functional status	1
Firmware version	V4.5
Engineering with	
• Programming package	STEP 7 V5.3 SP2 or higher with HW update
CiR – Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	25 µs
Supply voltage	
Rated value (DC)	No; Power supply via system power supply
• 24 V DC	
Input current	
from backplane bus 5 V DC, typ.	1.4 A
from backplane bus 5 V DC, max.	1.7 A
from backplane bus 24 V DC, max.	150 mA; Per DP interface

from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	6 W
Memory	
Type of memory	other
Work memory	
• integrated	2.8 Mbyte
• integrated (for program)	1.4 Mbyte
• integrated (for data)	1.4 Mbyte
• expandable	No
Load memory	
• expandable FEPR0M	Yes
• expandable FEPR0M, max.	64 Mbyte
• integrated RAM, max.	256 kbyte
• 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.	190 µA; Valid up to 40°C
• Backup current, max.	660 µA
• 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	
for bit operations, typ.	0.045 µs
for word operations, typ.	0.045 µs
for fixed point arithmetic, typ.	0.045 µs
for floating point arithmetic, typ.	0.135 µs
CPU-blocks	
DB	
• Number, max.	4 095; Number range: 1 to 4095
• Size, max.	64 kbyte
FB	
• Number, max.	2 048; Number range: 0 to 2047
• Size, max.	64 kbyte
FC	

• Number, max.	2 048; Number range: 0 to 2047
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
• Number of time alarm OBs	4
• Number of delay alarm OBs	4
• Number of cyclic interrupt OBs	4
• Number of process alarm OBs	4
Nesting depth	
• per priority class	24
• additional within an error OB	1
Counters, timers and their retentivity	
S7 counter	
• Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
S7 times	
• Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	No times retentive
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
Data areas and their retentivity	
retentive data area in total	Total working and load memory (with backup battery)
Flag	

• Number, max.	8 kbyte
• Retentivity preset	MB 0 to MB 15
• Number of clock memories	8; in 1 memory byte
Local data	
• adjustable, max.	16 kbyte
• preset	8 kbyte
Address area	
I/O address area	
• Inputs	8 kbyte
• Outputs	8 kbyte
Process image	
• Inputs, adjustable	8 kbyte
• Outputs, adjustable	8 kbyte
• Inputs, default	256 byte
• Outputs, default	256 byte
• consistent data, max.	244 byte
• Access to consistent data in process image	Yes
Subprocess images	
• Number of subprocess images, max.	15
Digital channels	
• Inputs	65 536
— of which central	65 536
• Outputs	65 536
— of which central	65 536
Analog channels	
• Inputs	4 096
— of which central	4 096
• Outputs	4 096
— of which central	4 096
Hardware configuration	
Number of expansion units, max.	21
connectable OPs	31 without message processing, 8 with message processing
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
• Mixed mode IM + CP permitted	No