

Technical specifications S7-400 CPUs

CPU	CPU 412-1	CPU 412-2	CPU 414-2	CPU 414-3	CPU 414-3 PN/DP
Dimensions (mm)	25 x 290 x 219			50 x 290 x 219	
No. of slots	1			2	
Order No. group: 6ES7	412-1XJ.	412-2XJ.	414-2XK.	414-3XM.	414-3EM.
RAM					
Integrated	288 KB	512 KB	1 MB	2.8 MB	
Instructions	48 K	84 K	170 K	460 K	
For program	144 KB	256 KB	512 KB	1.4 MB	
For data	144 KB	256 KB	512 KB	1.4 MB	
Processing times					
Bit operation	0,075 µs		0,045 µs		
Word operation	0,075 µs		0,045 µs		
Fixed-point operation	0,075 µs		0,045 µs		
Floating-point operation	0,225 µs		0,135 µs		
Bit memories, timers, counters					
Bit memory	4 KB		8 KB		
S7 timers/counters	2048 / 2048		2048 / 2048		
IEC timers/counters	■		■		
Address areas					
I/O	4 KB / 4 KB		8 KB / 8 KB		
Process I/O image	4 KB / 4 KB		8 KB / 8 KB		
Digital channels	32768 / 32768		65536 / 65536		
Analog channels	2048 / 2048		4096 / 4096		
DP interfaces					
Number of DP interfaces		1	1	2	1
Number of DP slaves		64	96	96 each	125 each
Plug-in interface modules				1 x DP	1 x DP
PN interfaces					
Number of PN interfaces					1 (2 ports)
PROFINET IO					■
PROFINET CBA					■
TCP/IP					■
UDP					■
ISO-on-TCP (RFC 1006)					■
Web Server					■

CPU	CPU 416-2	CPU 416F-2	CPU 416-3 ¹⁾	CPU 416-3 PN/DP ¹⁾	CPU 416F-3 PN/DP	CPU 417-4 ¹⁾
Dimensions (mm)	25 x 290 x 219		50 x 290 x 219			50 x 290 x 219
No. of slots	1		2			2
Order No. group: 6ES7	416-2XN.	416-2FK.	416-3XR.	416-3ER.	416-3FR.	417-4XT.
RAM						
Integrated	5.6 MB		11.2 MB			30 MB
Instructions	920 K	560 K F instructions	1840 K		1120 K F instructions	4450 K
For program	2.8 MB		5.6 MB			15 MB
For data	2.8 MB		5.6 MB			15 MB
Processing times						
Bit operation	0,03 µs					0,018 µs
Word operation	0,03 µs					0,018 µs
Fixed-point operation	0,03 µs					0,018 µs
Floating-point operation	0,09 µs					0,054 µs
Bit memories, timers, counters						
Bit memory	16 KB					16 KB
S7 timers/counters	2048 / 2048					2048 / 2048
IEC timers/counters						
Address areas						
I/O	16 KB / 16 KB					16 KB / 16 KB
Process I/O image	16 KB / 16 KB					16 KB / 16 KB
Digital channels	131072 / 131072					131072 / 131072
Analog channels	8192 / 8192					8192 / 8192
DP interfaces						
Number of DP interfaces	1	1	2	1	1	3
Number of DP slaves	125	125	125 each	125 each	125 each	125 each
Plug-in interface modules			1 x DP	1 x DP	1 x DP	2 x DP
PN interfaces						
Number of PN interfaces				1 (2 ports)	1 (2 ports)	
PROFINET IO						
PROFINET CBA						
TCP/IP						
UDP						
ISO-on-TCP (RFC 1006)						
Web server						

¹⁾ as SIPLUS component also for aggressive atmosphere/condensation (www.siemens.com/siplus)

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