

S7-1500

Technical Data



Standard CPUs			
	CPU 1511-1 PN	CPU 1513-1 PN	CPU 1516-3 PN
Type	Standard CPU	Standard CPU	Standard CPU
Dimensions	35 x 125 x 130 mm	35 x 125 x 130 mm	70 x 125 x 130 mm
Spare parts guaranteed for	10 years	10 years	10 years
Temperature range	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C
Command execution time			
Bit operation	0.06 µs	0.04 µs	0.01 µs
Word operation	0.072 µs	0.048 µs	0.012 µs
Fixed-point operation	0.096 µs	0.064 µs	0.016 µs
Floating-point operation	0.384 µs	0.256 µs	0.064 µs
Memory			
Work memory	150 KB for program 1 MB for data	300 KB for program 1.5 MB for data	1 MB for program 5 MB for data
Load memory/mass storage, max.	2 GB (via SIMATIC memory card)	2 GB (via SIMATIC memory card)	2 GB (via SIMATIC memory card)
Backup, max.	Program and data on SIMATIC memory card (maintenance-free)	Program and data on SIMATIC memory card (maintenance-free)	Program and data on SIMATIC memory card (maintenance-free)
I/O			
I/O address area, max.	32/32 KB	32/32 KB	32/32 KB
Process image	32	32	32
Digital channels	262 144	262 144	262 144
Analog channels	16 384	16 384	16 384
Centralized			
• I/O integrated in CPU	Available soon	Available soon	Available soon
• I/O modules on CPU	Yes	Yes	Yes
Distributed			
• I/O modules on PROFIBUS	Yes (via CM)	Yes (via CM)	Yes
• I/O modules on PROFINET	Yes	Yes	Yes
Bit memories, timers, counters, blocks			
Bit memories	16 KB	16 KB	16 KB
S7 timers	2048	2048	2048
S7 counters	2048	2048	2048
IEC timers/counters	Yes	Yes	Yes
Data blocks (number)	65536	65536	65536
Data blocks (size)	1 MB	1.5 MB	5 MB

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Technology functions			
Loadable function blocks	Yes	Yes	Yes
Basic functions integrated in CPU	Yes	Yes	Yes
Special modules, plugged in centrally	Yes	Yes	Yes
Special technology controllers	–	–	–
Isochronous mode	Yes	Yes	Yes
IRT	Yes	Yes	Yes
Safety/availability			
Fail-safety	Available soon	Available soon	Available soon
Fault tolerance	–	–	–
Configuration changes during operation (CiR)	Available soon	Available soon	Available soon
Connection / disconnection of centralized I/O during operation (hot swapping)	Available soon	Available soon	Available soon
Engineering			
Configuration / programming software	STEP 7 V12	STEP 7 V12	STEP 7 V12
Programming languages	LAD, FBD, STL, S7-SCL	LAD, FBD, STL, S7-SCL	LAD, FBD, STL, S7-SCL
Communication			
PtP	Yes (via CM)	Yes (via CM)	Yes (via CM)
AS interface	–	–	–
PROFIBUS	Yes (via CM)	Yes (via CM)	1 x PB
PROFINET	1 x PN (2-port switch)	1 x PN (2-port switch)	1 x PN (2-port switch)
Others integrated	–	–	1 x Ethernet
Web server	Yes	Yes	Yes
Order No. group: 6ES7	511-1AK...	511-1AL...	511-3AN...

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