Siemens 6ES7417-4XL04-0AB0

01 S7-400 CPU 417-4 / system role

Product function and operating context

Siemens 6ES7417-4XL04-0AB0 executes large S7-400 control programs while supporting distinct communication and distributed-I/O paths within the configured rack system.

Work memory is divided into 10 MB for code and 10 MB for data. The processor supports 2048 timers, 2048 counters and a 16 KB marker area; its load-memory configuration is separate from these work-memory resources.

Functional path

Configured I/O	S7-400 CPU execution	Process image and program	Controlled outputs

Configuration	10 MB code plus 10 MB data work memory
Interface	MPI/DP, DP and two interface-module slots
Operating feature	2048 timers and 2048 counters

The first integrated port supports MPI or PROFIBUS DP, while the second is a DP interface. Two additional slots accept suitable IF 964-DP interface modules, allowing the communication arrangement to be tailored to the installed project.

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02 Technical operating envelope

Code work memory	10 MB
Data work memory	10 MB
Bit operation time	0.03 µs
Floating-point operation time	0.09 µs
Timers / counters	2048 / 2048
Marker memory	16 KB

Integrated interfaces	1 MPI/DP and 1 DP
Interface-module slots	2, for compatible IF 964-DP modules
Maximum DP bit rate	12 Mbit/s
I/O address range	16 KB inputs and 16 KB outputs
S7 connection resources	64
Typical power loss	6 W

Ratings refer to CPU 417-4 order number 6ES7417-4XL04-0AB0. Project, firmware and optional interface compatibility require separate matching.

Operating interpretation

Memory, connection resources and process-image limits are separate design constraints.

Configuration boundary

Match rack configuration, interface modules, firmware compatibility and the commissioned application.

How many timers and counters are available in 6ES7417-4XL04-0AB0?

The CPU supports 2048 timers and 2048 counters, with the retentive behavior determined by the project settings.

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03 System integration and applications

Large S7-400 programs

Separate code and data work-memory areas support substantial control applications.

PROFIBUS distributed I/O

Integrated and optional DP paths connect the CPU to configured remote I/O networks.

Operator and engineering access

Allocated S7 connection resources support HMI and programming functions alongside control communications.

Configured multiprocessor racks

The CPU can participate in supported S7-400 rack arrangements when the complete hardware configuration permits it.

System and supply context

Siemens 6ES7417-4XL04-0AB0 operates within the following defined system context. Confirm CPU 417-4 order number, interface modules and project compatibility.

Application boundary

Ratings refer to CPU 417-4 order number 6ES7417-4XL04-0AB0. Project, firmware and optional interface compatibility require separate matching.

Are both integrated ports on 6ES7417-4XL04-0AB0 identical?

No. The first is MPI/DP, while the second is a DP interface. Their supported network roles and slave/address limits must be configured accordingly.

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04 Engineering selection decisions

How is the 20 MB work memory of 6ES7417-4XL04-0AB0 divided?

It contains 10 MB for code and 10 MB for data. Load memory is a separate resource and must be sized for the stored project.

What can occupy the two interface slots of 6ES7417-4XL04-0AB0?

Compatible IF 964-DP interface modules can add DP paths. Confirm the installed modules and project configuration rather than treating the empty slots as active ports.

How many S7 connections can 6ES7417-4XL04-0AB0 allocate?

There are 64 connection resources, including reserved resources for programming-device and operator-panel access. Budget all configured communications within that total.

Which retained information is essential before replacing 6ES7417-4XL04-0AB0?

Preserve the hardware configuration, program, data, interface assignments, startup settings and diagnostic history. Verify the restored program identity and process response before release.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of 6ES7417-4XL04-0AB0 is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Match rack configuration, interface modules, firmware compatibility and the commissioned application.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Siemens S7-400 CPU Specifications, A5E00267840-03.

Related product navigation

- Siemens 6ES7214-1AD23-0XB0
- Siemens 6ES7214-1HG40-0XB0

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries