Siemens 6ES7416-3XR05-0AB0

Complete Product Information

Siemens 6ES7416-3XR05-0AB0 is a SIMATIC S7-400 CPU 416-3 with 11.2 MB work memory, MPI/DP, PROFIBUS DP and a plug-in interface-module position.

Operating context

Work memory totals 11.2 MB, split into 5.6 MB for program code and 5.6 MB for data. Integrated load memory is 1 MB RAM, expandable with RAM or Flash memory cards up to 64 MB. A load-memory card does not enlarge the integrated work-memory partitions.

The first interface is MPI/DP at up to 12 Mbit/s; the second is PROFIBUS DP and the third accepts a plug-in IFM module. Record the actual interface module and network settings. The reference firmware is V5.3, with STEP 7 V5.3 SP2 or later plus the corresponding hardware update.

Typical bit, word and fixed-point operations take 30 ns; floating-point operations take 90 ns. The CPU supports 2048 S7 timers and 2048 counters. It occupies two slots, draws up to 1.3 A from the 5 V backplane and has typical power loss of 5.5 W. Preserve the project, backup state and installed rack power budget.

Configuration snapshot

Product type	CPU 416-3
System	SIMATIC S7-400
Work memory	11.2 MB: 5.6 MB code and 5.6 MB data
Integrated load memory	1 MB RAM
Load-memory expansion	Flash or RAM memory card; up to 64 MB
Interface 1	MPI/DP; up to 12 Mbit/s
Interface 2	PROFIBUS DP

02 Technical configuration and interfaces

Interface 3	Plug-in IFM module
Firmware reference	V5.3; match the installed firmware
Engineering software	STEP 7 V5.3 SP2 or higher with hardware update
Bit operation	30 ns typical
Floating-point operation	90 ns typical
S7 timers / counters	2048 / 2048
Power loss	5.5 W typical
Backplane current	1.1 A typical; 1.3 A maximum at 5 V DC
Slots required	2

System and configuration relationships

System relationship

An installed CPU 416-3 configuration combines execution memory, load media and three interface positions; keep all three identities in the service record.

Configuration boundary

Two slots are required. Check the rack position, adjoining modules and the fitted interface module when preparing a replacement.

Offered reference	6ES7416-3XR05-0AB0
Technical scope	Technical values apply to the complete 6ES7416-3XR05-0AB0 execution. Retain the actual installed configuration and applicable Siemens instructions.

03 Applications and precautions

Application context

Controller replacement

Use the complete CPU 416-3 identity when preparing S7-400 service. Retain the project, hardware configuration and actual installed firmware as one replacement baseline.

PROFIBUS system integration

Plan the MPI/DP and PROFIBUS DP connections against the installed network roles. Record any fitted IFM module separately from the CPU order identity.

Load-media maintenance

Review RAM or Flash load media before a card change. Keep the loadable application image and the integrated code/data work-memory allocations distinct.

Engineering baseline control

Coordinate the STEP 7 project and hardware update with the installed CPU firmware. Compare online diagnostics and configuration after restoring the approved application.

Commissioning precautions

Keep code and data partitions

The CPU has 11.2 MB work memory: 5.6 MB for program code and 5.6 MB for data. The integrated work memory is not expandable.

Match load-memory media

There is 1 MB integrated RAM load memory. Supported RAM or Flash memory cards expand load memory up to 64 MB.

Retain interface configuration

The first is MPI/DP up to 12 Mbit/s, the second is PROFIBUS DP and the third is a plug-in IFM module position. Verify which optional interface is actually fitted.

Match firmware and STEP 7

The reference is STEP 7 V5.3 SP2 or later with the corresponding hardware update. Match the actual installed firmware; the data-sheet reference is V5.3.

Assess application timing

Bit, word and fixed-point operations are typically 30 ns, while floating-point operations are typically 90 ns.

Preserve timer and counter settings

It supports 2048 S7 timers and 2048 S7 counters. Retentivity settings remain part of the application configuration.

04 Engineering questions

How is work memory divided in 6ES7416-3XR05-0AB0?

The CPU has 11.2 MB work memory: 5.6 MB for program code and 5.6 MB for data. The integrated work memory is not expandable.

Which load-memory options are available for 6ES7416-3XR05-0AB0?

There is 1 MB integrated RAM load memory. Supported RAM or Flash memory cards expand load memory up to 64 MB.

What are the three interface positions on 6ES7416-3XR05-0AB0?

The first is MPI/DP up to 12 Mbit/s, the second is PROFIBUS DP and the third is a plug-in IFM module position. Verify which optional interface is actually fitted.

Which STEP 7 baseline applies to 6ES7416-3XR05-0AB0?

The reference is STEP 7 V5.3 SP2 or later with the corresponding hardware update. Match the actual installed firmware; the data-sheet reference is V5.3.

What processing times are typical for 6ES7416-3XR05-0AB0?

Bit, word and fixed-point operations are typically 30 ns, while floating-point operations are typically 90 ns.

How many S7 timers and counters does 6ES7416-3XR05-0AB0 support?

It supports 2048 S7 timers and 2048 S7 counters. Retentivity settings remain part of the application configuration.

What rack power demand must be considered for 6ES7416-3XR05-0AB0?

The 5 V backplane current is 1.1 A typical and 1.3 A maximum; typical power loss is 5.5 W. Include the attached interface loads in the system assessment.

How many rack slots does 6ES7416-3XR05-0AB0 occupy?

Two slots are required. Check the rack position, adjoining modules and the fitted interface module when preparing a replacement.

05 Lifecycle and offered-unit information

Lifecycle status

6ES7416-3XR05-0AB0: The product is in the manufacturer product-cancellation stage and designated for replacement-part support.

Support and replacement: Confirm current service and replacement guidance with Siemens using the complete marking, hardware revision and installed configuration. Siemens identifies 6ES7416-3XS07-0AB0 as a successor; verify firmware, project and interface requirements before substitution.

Availability: Apter Power supply availability is confirmed separately from manufacturer lifecycle and support status.

Explore other Siemens references

Portfolio navigation only; no compatibility or substitution is implied.

Siemens 6ES7315-1AF03-0AB0	View product
Siemens 6ES7307-1KA00-0AA0	View product
Siemens 6ES7 153-2BA82-0XB0	View product

Available unit details

Offered reference: Siemens 6ES7416-3XR05-0AB0. Condition: New, original product.

Identity check: Technical values apply to the complete 6ES7416-3XR05-0AB0 execution. Retain the actual installed configuration and applicable Siemens instructions.

Included items: Confirm CPU, memory card, fitted IFM interface and any backup accessories separately.

Technical reference

Siemens 6ES7416-3XR05-0AB0 Data Sheet

Discuss your complete reference

Siemens 6ES7416-3XR05-0AB0

New, original product

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