Siemens 6ES5941-7UB11

01 Programmable Controller Central Processing Unit / system role

Product function

Siemens 6ES5941-7UB11 maintains the cyclic control sequence and stored operating state of an existing S5-115U installation, making program recovery and retention settings central to replacement planning.

Selected configuration

The CPU 941 uses internal memory and an optional RAM, EPROM or EEPROM submodule. The installed memory medium and the approved program must be retained together; a physically fitting replacement CPU is not a substitute for a recoverable application.

Integration checkpoints

- S5-115U sequence control
- Retentive-state applications
- Legacy CPU replacement
- Restart validation

Program recovery	Preserve internal and plug-in memory contents
State retention	Battery-dependent retentive flags, timers and counters
Commissioning focus	Review scan monitoring and restart behavior

Flags, timers and counters can be configured partly or wholly retentive. Their retention depends on backup power, so a restart assessment must include the battery condition and the process consequences of lost state.

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02 Technical operating envelope

Maximum program capacity	9216 statements
Internal memory	1024 statements
Memory-submodule capacity	8192 statements maximum
Binary-operation time	Approximately 2.2 µs
Word-operation time	Approximately 60–200 µs

Flags	2048
Timers / counters	128 / 128
Timer range	0.01–9990 s
Default scan-time monitoring	Approximately 500 ms, adjustable

Ratings apply to the stated hardware execution and operating conditions; companion hardware and configured functions require separate compatibility checks.

Program-memory interpretation

Capacity is expressed in statements; a statement normally occupies two bytes. Verify the actual program and data use rather than treating the count as a byte capacity.

Retentive-state boundary

Retentive flags, timers and counters require the backup battery. Test the intended restart sequence with a recoverable program and controlled process state.

Scan monitoring

Binary and word operations have different execution costs. Evaluate the running application and investigate a cycle-time fault before extending its monitoring limit.

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03 System integration and applications

S5-115U sequence control

Execute the retained STEP 5 process sequence.

Retentive-state applications

Maintain the configured operating state with a healthy backup arrangement.

Legacy CPU replacement

Restore the approved program and memory-medium configuration.

Restart validation

Check interlocks and outputs after the intended restart procedure.

Application and compatibility boundary

Program execution time depends on the operations used. Review scan monitoring and the actual application workload, then test the restart, interlock and I/O behavior before placing the restored controller in automatic operation.

Available unit verification

Check the memory submodule, front indicators, selector positions and backup arrangement. Confirm CPU and memory submodule only as individually listed in the quotation. Evaluate the actual interfaces and included accessories against the installed arrangement.

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04 Engineering selection decisions

Why must the memory submodule be considered when replacing 6ES5941-7UB11?

The application can depend on both internal memory and a plug-in RAM, EPROM or EEPROM module. Preserve the correct medium and program image rather than replacing the processor in isolation.

Does the statement capacity of 6ES5941-7UB11 equal its capacity in bytes?

No. A statement usually occupies two bytes. Assess the actual program and data requirements using the STEP 5 memory organization.

What can change after a battery failure on 6ES5941-7UB11?

Retentive flags, timers and counters may lose their stored state. Review the restart logic and recover the approved application before allowing automatic operation.

How should a cycle-time fault on 6ES5941-7UB11 be investigated?

Review the running program, recent changes and operation mix. Word operations take longer than simple binary operations, so instruction count alone does not establish scan time.

Why should a restart test of 6ES5941-7UB11 include process interlocks?

A CPU can return to RUN while retained states and field conditions differ. Verify permissives and output behavior before the sequence is released.

Can the same program backup be used on 6ES5941-7UB11 without checking its hardware configuration?

The backup must match the installed I/O allocation, memory arrangement and intended CPU configuration. Verify those relationships before downloading or starting the program.

Which values should be captured before removing 6ES5941-7UB11 from a running installation?

Retain the approved program, memory-module identity, retentive allocation and relevant process-state data, together with the selector and diagnostic states.

What proves that a replacement 6ES5941-7UB11 is ready for production?

A successful load is only one step. Confirm stable execution, correct I/O mapping, expected restart behavior and functional interlock tests under the approved commissioning sequence.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support stage for this exact model is not confirmed.

Replacement assessment

Preserve the CPU 941 execution, STEP 5 program, memory-submodule type, retentive allocation and rack configuration. A newer CPU requires a separate application compatibility review.

Available unit details

Offered reference: Siemens 6ES5941-7UB11. Condition: New, original product. Check the memory submodule, front indicators, selector positions and backup arrangement. Confirm CPU and memory submodule only as individually listed in the quotation; companion equipment is included only when itemized.

Document roles: The original excerpt retains manufacturer tables and drawings; this brief addresses selection and system context; the separate installation guide covers field procedures and acceptance.

Technical basis: SIMATIC S5-115U Manual, EWA 4NEB 811 6130-02b.

Related product navigation

- Siemens 6ES7417-4HT14-0AB0
- Siemens 6ES7216-2BD23-0XB0
- Siemens 6ES7431-0HH00-0AB0

Related products for separate application assessment; verify the platform and interface. No interchangeability is implied.

Product enquiries