Siemens 6ES7953-8LL31-0AA0

01 Plan the controlled replacement

Work boundary

Siemens 6ES7953-8LL31-0AA0 retains the program and configuration that a compatible SIMATIC CPU uses at start-up, providing a removable 2 MB nonvolatile memory medium. Treat the memory card and its stored project as separate acceptance items. Physical recognition does not prove that the correct application or system data has been loaded.

Preparation sequence

01	Confirm the installed marking is 6ES7953-8LL31-0AA0.
02	Record the normal indication, diagnostic state and connected path.
03	Back up the applicable project, program, wiring record or terminal map.
04	Identify every supply, reference, communication and field connection.
05	Place affected machine functions in the approved maintenance state.
06	Define the functional and fault-response tests before removal.

Technical data to retain

Item	Installed requirement
Memory family	SIMATIC S7 Micro Memory Card
Memory technology	Nflash
Operating interface	3.3 V
Program-memory capacity	2 MB
Supported controller family	SIMATIC S7-300
Supported compact system	SIMATIC C7
Supported distributed CPU family	Compatible ET 200 CPUs
Retention type	Nonvolatile removable program memory

Do not copy a nearby configuration

A visually similar product can use different capacity, channel organization, terminal access or communication settings. Use the exact model and recorded machine position.

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02 Disconnect, inspect and install

Pre-installation controls

Step	Control
1	Create and verify a complete backup before removing the installed card.
2	Record the CPU type, firmware and project revision associated with the card.
3	Remove or insert the card only under the approved CPU service condition.
4	Protect the contacts from contamination, static discharge and mechanical damage.
5	Do not overwrite a card until its original contents are archived.
6	Confirm 2 MB capacity and CPU support before copying the project.

Connection records

Identity
Photograph and label each connection before removal.

Electrical path
Record polarity, reference and protective-device arrangement.

Configuration
Retain the approved software, card, module or terminal assignment.

Mechanical fit
Inspect seating, keying and connector condition without forcing parts.

Inspection before energization

Correct bent contacts, damaged conductors, loose terminals, contamination or incorrect keying before interpreting any response as a product fault.

Applicable interface values

Interface	Value	Check
Memory family	SIMATIC S7 Micro Memory Card	Confirm the installed memory family agrees with this exact configuration.
Memory technology	Nflash	Confirm the installed memory technology agrees with this exact configuration.

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03 Configure and verify operation

Functional test sequence

01	Energize only under the approved controlled condition.
02	Confirm the initial status before issuing commands or applying a signal.
03	Test one channel, object, terminal group or network path at a time.
04	Compare the internal indication with the actual field response.
05	Check the intended diagnostic or alarm behavior.
06	Repeat for every affected function before clearing maintenance controls.

Acceptance observations

Test	Action	Expected result
Identity	Confirm Siemens 6ES7953-8LL31-0AA0.	Complete marking matches the selected record.
Power or passive path	Verify the applicable supply or isolated wiring condition.	No polarity, potential or isolation fault is present.
Configuration	Restore the approved project, module pairing or terminal assignment.	Hardware and stored settings agree.
Functional response	Apply a controlled input, command or communication change.	The intended indication and output path respond.
Fault response	Introduce only the approved diagnostic or interruption test.	The configured status and safe response are visible.
Release	Remove test states and compare the final condition with the baseline.	Normal operation is stable and recorded.

Separate the stages

A correct display or status LED does not prove the downstream field path. Likewise, a physical output does not prove that diagnostics, alarms or retained configuration are correct.

Configuration record

Treat the memory card and its stored project as separate acceptance items. Physical recognition does not prove that the correct application or system data has been loaded.

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04 Troubleshoot by technical symptom

Symptom-led checks

Observed condition	Investigation
No expected response	Trace the source, connection and configured destination before replacing hardware.
Wrong value or state	Compare the exact technical selection, channel identity and retained project data.
Intermittent behavior	Inspect seating, terminal security, signal reference and environmental condition.

Questions 1–4

How much program memory does Siemens 6ES7953-8LL31-0AA0 provide?
It provides 2 MB of nonvolatile program-memory capacity.

Which memory technology is used by Siemens 6ES7953-8LL31-0AA0?
The card uses 3.3 V Nflash technology for compatible SIMATIC CPU interfaces.

Which controller families accept Siemens 6ES7953-8LL31-0AA0?
It is specified for supported SIMATIC S7-300, C7 and ET 200 CPU applications; the exact CPU release must still be checked.

Can an empty Siemens 6ES7953-8LL31-0AA0 start the machine automatically?
No. The card must contain the approved program and hardware configuration required by the intended CPU.

Avoid unsupported adjustment

If the result is inconsistent, check identity, interface selection, channel mapping and retained configuration before changing setpoints or editing the project.

Remaining precautions

Check	Requirement
5	Do not overwrite a card until its original contents are archived.
6	Confirm 2 MB capacity and CPU support before copying the project.
7	Compare blocks and system data with the controlled engineering source.
8	Verify start-up, diagnostics and I/O response after the card is recognized.

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05 Return to service and handover

Questions 5–8

Why should Siemens 6ES7953-8LL31-0AA0 be backed up before replacement?
The card may hold the only controlled copy of the CPU program, system data and project-specific start-up information.

Can another 2 MB card replace Siemens 6ES7953-8LL31-0AA0 without checking its contents?
No. Matching capacity does not establish the correct project, CPU compatibility or revision; validate both the medium and its stored data.

What should be compared after copying Siemens 6ES7953-8LL31-0AA0?
Compare the program blocks, system data, hardware configuration and project revision with the controlled engineering backup.

How is Siemens 6ES7953-8LL31-0AA0 accepted in a CPU?
Confirm card recognition, CPU start-up mode, diagnostic state, program version, I/O configuration and a controlled functional response before release.

Release evidence

Test	Action	Expected result
Fault response	Introduce only the approved diagnostic or interruption test.	The configured status and safe response are visible.
Release	Remove test states and compare the final condition with the baseline.	Normal operation is stable and recorded.

Related Siemens products

Siemens 7VE5120-4CA10-0A-FF

Siemens 7UT5121-4CB01-0AA0-LL

Siemens 7UM5111-4CB01-0BB0-JJ

Siemens 6DR5510-0EG00-0AA0

Handover record

Record the complete model, configuration source, connection map, observed normal state, diagnostic result and the person or procedure that authorized return to service.