Siemens 6ES5946-3UA22

Technical Reference

Siemens 6ES5946-3UA22 is a CPU 946 F central processing unit for the SIMATIC S5-155U programmable controller. It executes the STEP 5 control program and coordinates the controller's rack-based automation tasks.

PRODUCT ROLE AND VERIFIED FEATURES

Feature 1

Identified by Siemens as a SIMATIC S5 CPU 946 F central processing unit.

Feature 2

Assigned to the S5-155U programmable-controller platform.

Feature 3

Executes the stored STEP 5 user program and controller operating functions.

Feature 4

Interfaces with the S5 rack, memory and I/O resources used by the installed controller.

VERIFIED DATA SNAPSHOT

Product family	SIMATIC S5
Processor type	CPU 946 F
Controller system	S5-155U
Programming environment	STEP 5

SYSTEM RELATIONSHIP

Field device → **Product interface** → **System channel** → **Verified response**

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Technical profile

Verified technical values for the complete product string are arranged below for selection and engineering review.

Product family	SIMATIC S5
Processor type	CPU 946 F
Controller system	S5-155U
Programming environment	STEP 5
Module role	Central processing unit
Lifecycle	Discontinued product

SELECTION ANCHORS

- Identified by Siemens as a SIMATIC S5 CPU 946 F central processing unit.
- Assigned to the S5-155U programmable-controller platform.
- Executes the stored STEP 5 user program and controller operating functions.
- Interfaces with the S5 rack, memory and I/O resources used by the installed controller.

IMPORTANT NOTICE	Use the values as one matched configuration. Do not substitute a nearby ordering code without a separate check.

MANUFACTURER SOURCE CONTROLS

Manufacturer source	Siemens Industry Mall product record for 6ES5946-3UA22
Evidence boundary	Technical statements are limited to the identified product or applicable manufacturer family.
Selection control	Use the complete ordering string and verify the installed system before purchase or installation.

ADDITIONAL ENGINEERING CHECKS

Which installation records should accompany Siemens 6ES5946-3UA22?	Record the complete article number, cpu module position, connections, controlled settings and functional test result.
When can Siemens 6ES5946-3UA22 return to service?	Return it to service only after diagnostics, communication, interlocks and the intended system response meet the approved acceptance criteria.

System role and architecture

Field device → **Product interface** → **System channel** → **Verified response**

APPLICATION POINTS

Legacy machine control

Run the existing STEP 5 control program in a maintained S5-155U rack.

Process sequencing

Coordinate deterministic logic, interlocks and output decisions in the installed controller.

Plant maintenance

Restore the documented processor position without changing the approved application program.

System recovery

Return the controller to its recorded startup state after an exact-article replacement.

INTEGRATION RECORD

Identity	Record the complete marking and installed position.
Mechanical interface	Confirm mounting, support, clearance and connector engagement.
Electrical interface	Confirm signal path, shield, common and receiving-channel assignment.
Configuration	Retain the controlled channel settings and acceptance criteria.
Functional evidence	Record the expected static value, dynamic response and system status.

The cpu module serves a defined role in its documented SIMATIC system. Match the rack, interfaces, configuration and program safeguards before the controlled system returns to service.

ENGINEERING REVIEW QUESTIONS

What processor type is Siemens 6ES5946-3UA22?	It is the Siemens SIMATIC S5 CPU 946 F central processing unit.
Which controller platform uses Siemens 6ES5946-3UA22?	Siemens assigns it to the S5-155U programmable-controller system.
Which programming environment applies to Siemens 6ES5946-3UA22?	The controller application uses the SIMATIC STEP 5 environment.
What should be backed up before replacing Siemens 6ES5946-3UA22?	Back up the user program, hardware configuration and operating parameters.

Engineering checks and acceptance

PRODUCT PRECAUTIONS

01	Confirm the complete 6ES5946-3UA22 article number and CPU 946 F designation before removing the installed CPU.
02	Verify that the host controller is the documented S5-155U platform.
03	Back up the STEP 5 user program, hardware configuration and operating parameters.
04	Record rack slot, switch positions, memory media and interface connections.
05	Remove power and follow site electrostatic-discharge controls before handling the module.
06	Do not transfer memory media until the required CPU state and site procedure are confirmed.
07	Check startup indicators, controller mode and I/O communication after installation.
08	Validate interlocks and the controlled machine sequence before returning outputs to service.

RELEASE EVIDENCE

Exact identity	Product marking and intended system position agree.
Interface condition	Mounting, connectors, terminals and cable routing are secure.
Signal response	The expected static and dynamic behavior has been observed.
Protection state	Channel status, alarms and controlled bypass state are restored.

IMPORTANT NOTICE	Use the complete article number and verify the intended SIMATIC system before installation.

APPLICATION BOUNDARIES

Legacy machine control	Run the existing STEP 5 control program in a maintained S5-155U rack.
Process sequencing	Coordinate deterministic logic, interlocks and output decisions in the installed controller.
Plant maintenance	Restore the documented processor position without changing the approved application program.
System recovery	Return the controller to its recorded startup state after an exact-article replacement.

Technical questions and related models

MODEL-SPECIFIC QUESTIONS

What processor type is Siemens 6ES5946-3UA22?	It is the Siemens SIMATIC S5 CPU 946 F central processing unit.
Which controller platform uses Siemens 6ES5946-3UA22?	Siemens assigns it to the S5-155U programmable-controller system.
Which programming environment applies to Siemens 6ES5946-3UA22?	The controller application uses the SIMATIC STEP 5 environment.
What should be backed up before replacing Siemens 6ES5946-3UA22?	Back up the user program, hardware configuration and operating parameters.
Which physical details must be recorded before removing Siemens 6ES5946-3UA22?	Record the rack slot, switch positions, memory media and every connected interface.
What verifies Siemens 6ES5946-3UA22 after startup?	Confirm CPU status, operating mode, I/O communication, interlocks and the controlled sequence.

RELATED MODELS ON APTERPOWER

Siemens 6ES5928-3UB21	Related product reference. Review the complete ordering string before selection.
Siemens 6ES5470-4UA12	Related product reference. Compare the required interface and system position.
Siemens 6ES5465-4UA12	Related product reference. Confirm the execution independently for the intended task.

SOURCE AND SELECTION RECORD

Manufacturer source	Siemens Industry Mall product record for 6ES5946-3UA22
Evidence boundary	Technical statements are limited to the identified product or applicable manufacturer family.
Selection control	Use the complete ordering string and verify the installed system before purchase or installation.

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