01 / Identity and job scope

SIEMENS

6ES5470-4UC12

Analog Output Module

Product role

Siemens 6ES5470-4UC12 is an eight-channel SIMATIC S5 analog output module with 1–5 V and 4–20 mA outputs.

SIMATIC S5
Digital command values

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470-4UC12
Analog conversion

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Process interface
1–5 V / 4–20 mA

Applicability

The 470-4UC12 output ranges apply to this order code; shared 470 module specifications retain their stated load and operating conditions.

Hardware and configuration

The 6ES5470-4UC12 belongs to the SIMATIC S5 470 analog output family. Its eight channels provide 1–5 V and 4–20 mA in parallel, with a nominal command representation of 0 to 1024 units. This range differs from the 470-4UA and 470-4UB variants, so the complete order code matters when preserving an existing process scale.

Planning basis

This Apter Power guide supports identification and engineering planning. Apply the complete manufacturer and machine-builder procedures for the actual installation.

02 / Configuration and interface readiness

Item	Configuration relationship
System family	SIMATIC S5
Module function	Analog output
Output channels	8
Voltage output range	1–5 V
Current output range	4–20 mA, parallel with voltage output
Value representation	12-bit two's complement
Nominal command scale	0–1024 units for 4UC variant

Technical context

The output-value representation is 12-bit two's complement. The common 470 specification gives a delay of no more than 1 ms from data transfer to the analog output, and an operating error limit of ±0.6% over 0–60 °C. The eight outputs share the external reference Mext; isolation does not mean separate isolation between individual channels.

How are output values represented by 6ES5470-4UC12?

The module uses a 12-bit two's-complement representation. Preserve the installed program scaling.

What voltage-mode load is required for 6ES5470-4UC12?

Use a load of at least 3.3 kΩ and observe the maximum voltage-output current of 3 mA.

03 / Installation and connection decisions

Isolate the process

Place the machine in a safe state and isolate power before handling the module or front connector.

Preserve the variant

Use the complete 6ES5470-4UC12 reference; other 470 suffixes have different output ranges.

Check the load

Keep voltage loads at or above 3.3 kΩ and current loads at or below 300 Ω.

Respect the common reference

Check Mext and the front-connector wiring. The eight outputs are not individually isolated channels.

Installation context

For voltage operation, the load resistance must be at least 3.3 kΩ and output current must not exceed 3 mA. Current-output loads must not exceed 300 Ω; the maximum no-load voltage is 18 V. Keep total capacitive loading below 100 nF and check the front-connector assignment, module enable and installed address before reconnecting process wiring.

What current-mode load can 6ES5470-4UC12 drive?

The specified load resistance is no more than 300 Ω; maximum no-load voltage is 18 V.

How quickly does 6ES5470-4UC12 update its analog output?

The specified delay between data transfer and analog output is no more than 1 ms.

04 / Functional acceptance planning

Application	Controlled review
Process setpoints	Use the 1–5 V outputs for compatible process interfaces while preserving the controller scale and reference potential.
Current-loop commands	Use the 4–20 mA connections with loads within 300 Ω and verify the receiving device range.
S5 maintenance	Retain the complete 4UC12 order code, rack arrangement and existing program addressing during replacement.
Loop verification	Check command-to-output response at controlled test points before releasing the connected process.

Are the channels of 6ES5470-4UC12 individually isolated?

The eight outputs use the common external reference Mext. Do not interpret the module isolation specification as individual channel isolation.

What accuracy condition applies to 6ES5470-4UC12?

The operating error limit is ±0.6% over 0–60 °C. Correct load, wiring and scaling remain necessary.

Release boundary

Apply controlled output commands and confirm the receiving equipment response before restoring normal operation.

Record
Keep the original configuration

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Test
Observe controlled response

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Release
Authorize normal operation

05 / Technical handover and support

Retained information

Keep the complete 6ES5470-4UC12 marking, host identity, connection photographs, configuration backup and controlled-test results in the service record.

Support planning

Confirm current support and replacement guidance with Siemens for the installed identity and configuration. Apter Power availability and dispatch are separate quotation matters.

Reference basis

Siemens SIMATIC S5 analog input/output module instructions, C79000-B8576-C300-06.

Apter Power technical summary; not a manufacturer-issued manual. Apply the original instructions for the actual installation.

Related industrial automation products

Navigation only; no substitution or compatibility claim.

Siemens 6ES5312-3AB32

Siemens 6ES5454-4UA13

Siemens 6ES5441-4UA14

Discuss your installed configuration

Send the full unit marking and connection details.

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