Siemens 6ES7331-7KF02-0AB0

Installation & Commissioning Guide

01 Define the installed-system task

A mixed-signal S7-300 station can use one SM 331 for several sensor technologies, provided the channel-group settings match the wiring.

Technical values apply to the complete 6ES7331-7KF02-0AB0 execution. Retain the actual installed configuration and applicable Siemens instructions.

Product type	SM 331 analog input
System	SIMATIC S7-300
Analog inputs	8; 4 for resistance measurement
Input types	Voltage, current, thermocouple, RTD and resistance
Resolution	9/12/14 bits; range and integration dependent

Retain the project and identification record

Keep the complete 6ES7331-7KF02-0AB0 marking, installed configuration and approved application records together. Use the applicable Siemens and machine procedures to plan isolation, replacement and release.

02 Review the signal, power or memory path

Eight analog inputs support voltage, current, thermocouple, RTD and resistance measurements; resistance measurement uses four inputs. Supported current ranges include 0-20 mA and 4-20 mA. Thermocouple types E, J, K, L and N and standard Pt100/Ni100 RTDs are supported.

Integration times of 2.5, 16.67, 20 and 100 ms correspond to basic conversion times of 3, 17, 22 and 102 ms. Resolution and interference suppression depend on the selected integration and measurement mode. Preserve the configured range and engineering scaling when replacing the module.

Rated load voltage	24 V DC
Load current	30 mA maximum without load
Backplane current	50 mA maximum at 5 V DC
Current ranges	0-20 mA, 4-20 mA, ±10 mA, ±20 mA, ±3.2 mA
Thermocouples	Types E, J, K, L and N

Check	Compare the installed configuration with the complete offered reference
Record	Retain the supply, interface or memory settings applicable to this item
Accept	Proceed only when the system record and actual hardware agree

03 Preserve configuration during replacement

How many input channels does 6ES7331-7KF02-0AB0 provide?

It provides eight analog inputs; four are available for resistance measurement.

Which thermocouple types are supported by 6ES7331-7KF02-0AB0?

Types E, J, K, L and N are supported. Match the configured sensor and compensation method to the wiring.

Can 6ES7331-7KF02-0AB0 measure 4-20 mA signals?

Yes. Supported current ranges include 4-20 mA and 0-20 mA, with 25 ohm input resistance for these ranges.

Are the input channels of 6ES7331-7KF02-0AB0 isolated from one another?

No. The channels are isolated from the backplane and electronics supply, but not from each other.

Configuration acceptance

The 20-pin front connector carries the field connections. Inputs are isolated from the backplane and electronics supply, but are not isolated from each other. Diagnostics and limit alarms are parameterizable, and the red SF LED gives a group-error indication. Use the diagnostic record to identify the affected circuit.

04 Commission and resolve diagnostic differences

How does integration time affect 6ES7331-7KF02-0AB0?

Selectable integration times are 2.5, 16.67, 20 and 100 ms; basic conversion times are 3, 17, 22 and 102 ms. Resolution and interference suppression depend on the selected mode.

What front connector is required for 6ES7331-7KF02-0AB0?

A 20-pin front connector is required. Preserve the channel wiring and verify the measurement settings before reconnecting the sensor circuits.

Which RTD inputs can be configured on 6ES7331-7KF02-0AB0?

Standard Pt100 and Ni100 inputs are supported. The module also supports two-, three- and four-wire resistance connections.

What does the red SF indication on 6ES7331-7KF02-0AB0 mean?

SF is a group-error indication. Read the parameterizable diagnostic information to identify the affected channel or condition before release.

Release check

Use the approved machine test to verify the intended function, receiving-system response and diagnostic state. Record the final settings and restore the planned operating configuration before service.

05 Handover and lifecycle planning

6ES7331-7KF02-0AB0: 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.

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

Installed-system handover

Retain the full 6ES7331-7KF02-0AB0 identity, hardware and configuration record, application archive and commissioning results. Confirm the module, 20-pin front connector and associated field accessories in the quotation.

Explore other Siemens references

Portfolio navigation only; no compatibility or substitution is implied.

Siemens 6ES7132-4HB01-0AB0	View product
Siemens 6ES7151-8AB01-0AB0	View product
Siemens 6ES7336-4GE00-0AB0	View product

Discuss your complete reference

Siemens 6ES7331-7KF02-0AB0
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Technical reference

Siemens 6ES7331-7KF02-0AB0 Data Sheet