

6ES7331-7PF11-0AB0

Exact-identity installation and commissioning guide

PRODUCT SCOPE

Siemens 6ES7331-7PF11-0AB0 is an isolated SIMATIC S7-300 SM331 analog input module for eight thermocouple channels. It provides 16-bit conversion with a 50 ms conversion time and uses one 40-pole front connector.

Verified installation basis

SIMATIC module	S7-300 SM331 isolated analog input
Input channels	Eight thermocouple inputs
Supported thermocouples	B, E, J, K, L, N, R, S, T, TXK/TXK(L)
Resolution	16 bit
Conversion time	50 ms
Front connector	One 40-pole connector
Rated supply	24 V DC

Verified related ApterPower product pages

Siemens 6ES7314-6BH04-0AB0

Siemens 6GK7243-2AX01-0XA0

Pre-work control

Record the installed system before any disconnection

Required checks

- Record the complete 6ES7331-7PF11-0AB0 order number and rack position.
- Place the S7-300 station and affected process in the approved safe maintenance state.
- Back up hardware configuration and record every channel parameter and diagnostic setting.
- Verify thermocouple type, polarity, compensation method and shield termination.
- Remove field and backplane power before disconnecting the 40-pole front connector.
- Do not configure voltage, current, RTD or resistance modes on this thermocouple module.

HOLD POINT

Confirm the complete 6ES7331-7PF11-0AB0 order number, thermocouple type, compensation method, wiring and parameter assignment before replacement.

Evidence to retain

- Complete product and installed-unit marking.
- Approved project, wiring and cabinet records.
- As-found connector, cable, address and diagnostic state.
- Acceptance plan and final results.

Verified related ApterPower product pages

Siemens 6ES7315-2EG10-0AB0

Siemens 6ES5928-3UB12

Installation sequence

Use the approved manufacturer procedure and site work controls

1 IDENTIFY

Record the complete 6ES7331-7PF11-0AB0 order number and rack position.

2 ISOLATE

Place the S7-300 station and affected process in the approved safe maintenance state.

3 RECORD

Back up hardware configuration and record every channel parameter and diagnostic setting.

4 VERIFY

Verify thermocouple type, polarity, compensation method and shield termination.

5 INSTALL

Remove field and backplane power before disconnecting the 40-pole front connector.

6 RESTORE

Do not configure voltage, current, RTD or resistance modes on this thermocouple module.

CONFIGURATION CONTROL

The SM331 module accepts the published B, E, J, K, L, N, R, S, T and TXK/TXK(L) thermocouple types and does not provide voltage, current, RTD or resistance modes. It uses 24 V DC rated supply power, draws up to 100 mA from the 5 V backplane and dissipates approximately 3 W. Channel diagnostics, wiring shields and compensation arrangements must match the approved S7-300 design.

Verified related ApterPower product pages

[Siemens 16249-51-4](#)

[Siemens 6AV6647-0AG11-3AX0](#)

Commissioning and acceptance

Return each affected function to its approved state

Identity	Record the complete 6ES7331-7PF11-0AB0 order number and rack position.
Configuration	Do not configure voltage, current, RTD or resistance modes on this thermocouple module.
Physical installation	Restore the station and confirm channel values, diagnostics and process scaling.
Functional acceptance	Document the final configuration and functional acceptance results before release.
Diagnostics	Confirm that no unexplained product, communication or system diagnostic remains.
Release record	Document the final configuration, observed states, test results and responsible technician.

Verified related ApterPower product pages

Siemens 6ES5470-4UA12	Siemens 6ES5465-4UA12
Siemens 39RTMCAN	

Handover record

Traceable evidence for the installed product

Final acceptance

- Remove field and backplane power before disconnecting the 40-pole front connector.
- Do not configure voltage, current, RTD or resistance modes on this thermocouple module.
- Restore the station and confirm channel values, diagnostics and process scaling.
- Document the final configuration and functional acceptance results before release.

Manufacturer evidence used

- Siemens technical data sheet for 6ES7331-7PF11-0AB0.
- Siemens ET 200M migration comparison for SM331 thermocouple modules.

Verified related ApterPower product pages

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