Siemens 6ES7231-4HF32-0XB0

01 Eight-input mapping and paired ranges

Map the eight measurements

Record the process variable, transmitter range and intended PLC channel for all eight inputs. Keep this map available while moving terminal connectors.

Match hardware range selection

Set the voltage or current range to the actual transmitter output. Check bipolar polarity and the distinction between 0–20 mA and 4–20 mA before calibration.

Analog inputs	8 differential channels
ADC resolution	12 bits plus sign
Range configuration	Voltage/current selectable in groups of 2

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02 Connector groups and module supply

Trace the connector groups

Follow channels 0–1 through X10, 2–3 through X11, 4–5 through X12 and 6–7 through X13. Label each input pair to prevent a correct signal appearing on the wrong channel.

Restore supply and earth

Check L+, M and the designated functional-earth connection against the approved wiring. Keep supply conductors distinct from measurement inputs.

Input terminal groups	X10: 0–1; X11: 2–3; X12: 4–5; X13: 6–7
Module supply	24 V DC nominal

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03 Loop burden and filtering choices

Evaluate current-loop loading

Include the module's 270–290-ohm input resistance in the transmitter loop budget. Verify that the field transmitter can maintain its commanded current with the total circuit burden.

Set filtering for the process

Retain the approved interference-rejection and smoothing settings. Evaluate measurement delay with the actual process rather than choosing maximum filtering automatically.

Current input resistance	270–290 Ω
Current ranges	0–20 mA; 4–20 mA

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04 Voltage and current endpoint tests

Inject a controlled voltage

For a voltage channel, test known points within its selected range using a suitable calibrator. Confirm polarity and the application's engineering-unit scaling.

Verify current-channel endpoints

For a current channel, test the configured low and high values and an intermediate value. Keep the signal within the supported range and observe application diagnostics.

Voltage ranges	±10 V; ±5 V; ±2.5 V
Voltage destruction limit	35 V
Current destruction limit	40 mA

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05 PLC channel identity and settings

Check channel identity in the PLC

Confirm that each injected input changes only its assigned process variable. Investigate swapped connectors or application addresses before accepting the measured accuracy.

Retain the analog configuration

Save the channel map, hardware ranges, filter settings, scaling and calibration results. Release each loop only after the input value and diagnostic handling match the intended process.

Technical basis: Siemens S7-1200 Programmable Controller System Manual, V4.6, A5E02486680-AP.

Related product navigation

- Siemens 6ES7234-4HE32-0XB0
- Siemens 6ES7232-4HD32-0XB0

These are related references, not confirmed substitutes or an automatically approved assembly.