

Siemens 6ES5465-4UA12

Analog Input Module

Product scope

- Accepts up to sixteen voltage or current inputs or eight Pt100 measurements.
- Uses interchangeable four-channel range submodules to define signal type.
- Converts measurements with an integrating dual-slope method.

Manufacturer source

Exact-model technical record

Verified model-specific overview, function, operating principle, applications and technical data.

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Siemens 6ES5465-4UA12

Analog Input Module

Product overview

Siemens 6ES5465-4UA12 is a potential-bound SIMATIC S5 analog input module for as many as sixteen voltage or current channels, or eight Pt100 resistance inputs. Plug-in range modules select the measurement type in groups of four channels.

6ES5465-4UA12 uses an integrating dual-slope converter to digitize process voltage, current or resistance signals. Depending on the installed range submodules, it handles sixteen conventional analog channels or eight Pt100 inputs.

The converter represents measurements with 13-bit resolution or 12 bits plus sign and reports overflow and wire-break conditions for supported ranges. Grouped range hardware lets one S5 card cover several common transmitter and sensor standards.

Selection must be based on the exact 6ES5498 range submodules already fitted, not on the base card alone. Because the input circuits are potential-bound, reference connections and allowable common-mode conditions need the same attention as signal polarity.

Technical specifications

Voltage/current input channels	16
Resistance input channels	8 Pt100
Range grouping	4 channels per plug-in submodule
Measured-value representation	13 bit or 12 bit plus sign
Conversion principle	Integrating voltage/time, dual-slope
Supported low-voltage range	± 50 mV or ± 500 mV with range module
Supported voltage ranges	± 1 V, ± 5 V and ± 10 V with range modules
Supported current ranges	± 20 mA; 4 to 20 mA for two-wire or four-wire transmitters
Current input resistance at ± 20 mA	25 Ω
Current input resistance at 4 to 20 mA	31.25 Ω
Voltage input resistance at ± 1 V	90 k Ω
Voltage input resistance at $\pm 5/\pm 10$ V	50 k Ω
Electrical relationship	Potential-bound inputs
Channel diagnostics	Overflow and supported wire-break signaling

6ES5465-4UA12 function and operating principle

Ordered configuration

The UA12 module is the analog-input base card; its fitted range modules complete the channel identity.

System role

It digitizes sensor and transmitter signals for the SIMATIC S5 peripheral system.

Selection and installation

Range hardware, reference potential and mode-switch positions must be recorded before exchange.

Functional path

- Accepts up to sixteen voltage or current inputs or eight Pt100 measurements.
- Uses interchangeable four-channel range submodules to define signal type.
- Converts measurements with an integrating dual-slope method.

Application scenarios

- Process transmitters can be grouped as voltage or current inputs on one S5 analog card.
- Pt100 temperature sensors can be acquired when the dedicated resistance range hardware is installed.
- Legacy skids can preserve established analog scaling through a like-for-like base card and range-module transfer.

6ES5465-4UA12 engineering checks

Monitoring

- The dual-slope converter integrates each selected analog range into the S5 process value.
- Sixteen voltage/current channels or eight resistance channels are supported by the base module.
- Overflow and supported wire-break states are reported at the affected measuring point.

Configuration

- Plug-in 6ES5498 submodules define each four-channel voltage or current group.
- Mode switches select the documented operating behavior for the installed range hardware.
- Existing submodule positions and software scaling should be photographed before removal.

Programming

- Raw values use 13-bit representation or a 12-bit magnitude with sign.
- The controller program must interpret engineering units using the configured range and scaling.
- Alarm limits should be reviewed after any change to the range submodule or mode setting.

Critical technical note

Verify every installed 6ES5498 range submodule before wiring Siemens 6ES5465-4UA12; the base card number alone does not define channel range.

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