

Siemens 6ES5435-4UA11

AC Digital Input Module

Product scope

- Reads sixteen AC states over the 24–60 V range used by industrial control circuits.
- Separates the channels into two isolated groups for organised field potentials.
- Applies mains-frequency input filtering suited to contact and interlock monitoring.

Manufacturer source

Exact-model technical record

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

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Siemens 6ES5435-4UA11

AC Digital Input Module

Product overview

Siemens 6ES5435-4UA11 is a SIMATIC S5 digital input module with sixteen 24–60 V AC channels divided into two isolated groups. It acquires mains-frequency field states for S5 automation racks.

6ES5435-4UA11 accepts sixteen AC input signals at 47–63 Hz and isolates them in two groups of eight. Typical channel current rises from about 15 mA at 48 V AC to 20 mA at 60 V AC.

The input network detects contact or sensor states with a typical five-millisecond rising response and twenty-millisecond falling response. A maximum input frequency of 20 Hz suits conventional interlocks rather than high-speed counting.

Cabinet ventilation affects the permitted channel loading at the upper voltage limit. Existing group commons, field protection and cable lengths must therefore be checked before moving conductors to the replacement module.

Technical specifications

Input channels	16
Isolation grouping	2 groups of 8
Rated input range	24 to 60 V AC
Line frequency	47 to 63 Hz
Typical current at 48 V	15 mA
Typical current at 60 V	20 mA
Maximum input frequency	20 Hz
Typical rising-edge delay	5 ms
Typical falling-edge delay	20 ms
Input resistance	3 kΩ
Unshielded cable length	600 m maximum
Shielded cable length	1000 m maximum
Backplane supply	5 V DC
Typical backplane current	100 mA
Channel diversity with fan	100%
Channel diversity without fan at 60 V	75%
Channel diversity without fan at 35 °C or 30 V	100%
Module width	40 mm
Module height	255 mm
Module depth	195 mm

6ES5435-4UA11 function and operating principle

Ordered configuration

The exact order number identifies the low-voltage AC execution of the S5 435 input family.

System role

It translates grouped field conditions into binary states for the SIMATIC S5 process image.

Selection and installation

Thermal diversity and group-common wiring must remain consistent with the original rack design.

Functional path

- Reads sixteen AC states over the 24–60 V range used by industrial control circuits.
- Separates the channels into two isolated groups for organised field potentials.
- Applies mains-frequency input filtering suited to contact and interlock monitoring.

Application scenarios

- Legacy S5 panels use the module for contactors, selector switches and auxiliary contacts supplied from 24–60 V AC.
- Plant interlock circuits can separate two field groups while presenting sixteen states to the CPU.
- Long cable runs from remote switchgear remain practical within the documented shielded or unshielded limits.

6ES5435-4UA11 engineering checks

Temperature & Humidity Range

- Full channel diversity is available with forced ventilation under the documented cabinet conditions.
- Without a fan, loading at the 60 V upper limit is reduced to 75 percent of the channels.
- At 35 °C or a 30 V field level, all channels may be used without forced ventilation.

Installation & Integration

- Two groups of eight require the correct field common and protective-device arrangement.
- The 40 mm module fits the designated S5 rack position and front-connector scheme.
- Unshielded routes can extend to 600 m and shielded routes to 1000 m within installation guidance.

Diagnostics

- Input-state evaluation is intentionally limited to 20 Hz for stable AC contact acquisition.
- Different rising and falling delays suppress mains-related chatter while releasing an OFF state predictably.
- Unexpected intermediate states should be investigated for field voltage, contact resistance and common continuity.

Critical technical note

Observe the documented diversity limits for 6ES5435-4UA11 when operating many channels near 60 V AC without forced ventilation.

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