

Siemens 6AG1331-7NF00-2AB0 Manual

Brand	Siemens
Product Series	Siemens
Product Type	B No

Description

6AG1331-7NF00-2AB0

SIPLUS S7-300 SM 331 40-pole based on 6ES7331-7NF00-0AB0 with conformal coating, -25...+70 °C, analog input isolated 8 AI; +/-5/10V, 1-5 V, +/-20 mA, 0/4 to 20 mA, 16 bit (55 ms), single rooting (50 V COM.)

Input current

from backplane bus 5 V DC, max. 130 mA

Power loss

Power loss, typ. 0.6 W

Analog inputs

Number of analog inputs 8

permissible input voltage for voltage input (destruction limit), max.

50 V; Permanent

permissible input current for current input (destruction limit), max.

32 mA

Input ranges

- Voltage Yes
- Current Yes
- Thermocouple No
- Resistance thermometer No
- Resistance No

Input ranges (rated values), voltages

- 0 to +10 V No
- 1 V to 5 V Yes
- Input resistance (1 V to 5 V) 2 M Ω
- 1 V to 10 V No
- -1 V to +1 V No
- -10 V to +10 V Yes
- Input resistance (-10 V to +10 V) 2 M Ω
- -2.5 V to +2.5 V No
- -250 mV to +250 mV No
- -5 V to +5 V Yes
- Input resistance (-5 V to +5 V) 2 M Ω
- -50 mV to +50 mV No
- -500 mV to +500 mV No
- -80 mV to +80 mV No

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Input ranges (rated values), currents

- 0 to 20 mA Yes

— Input resistance (0 to 20 mA) 250 Ω

- -20 mA to +20 mA Yes

— Input resistance (-20 mA to +20 mA) 250 Ω

- -3.2 mA to +3.2 mA No

- 4 mA to 20 mA Yes

— Input resistance (4 mA to 20 mA) 250 Ω

Input ranges (rated values), thermocouples

- Type B No
- Type C No
- Type E No
- Type J No
- Type K No
- Type L No
- Type N No
- Type R No
- Type S No
- Type T No
- Type U No
- Type TXK/TXK(L) to GOST No

Input ranges (rated values), resistance thermometer

- Cu 10 No
- Ni 100 No
- Ni 1000 No
- LG-Ni 1000 No
- Ni 120 No
- Ni 200 No
- Ni 500 No
- Pt 100 No
- Pt 1000 No
- Pt 200 No
- Pt 500 No

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Input ranges (rated values), resistors

- 0 to 150 ohms No
- 0 to 300 ohms No
- 0 to 600 ohms No
- 0 to 6000 ohms No

Cable length

- shielded, max. 200 m

Analog value generation for the inputs

Integration and conversion time/resolution per channel

- Resolution with overrange (bit including sign), max. 16 bit; Unipolar: 15/15/15/15 bit; bipolar: 15 bit + sign/15 bit + sign/15 bit + sign/15 bit + sign
- Integration time, parameterizable Yes; 10/ 16.67/ 20/ 100 ms
- Interference voltage suppression for interference

frequency f1 in Hz

400 / 60 / 50 / 10 Hz

Encoder

Connection of signal encoders

- for voltage measurement Yes
- for current measurement as 2-wire transducer Yes; with external transmitter; possible with separate supply for transmitter
- for current measurement as 4-wire transducer Yes

Errors/accuracies

Operational error limit in overall temperature range

- Voltage, relative to input range, (+/-) 0.1 %; @ Ucm = 0 V; @ Ucm = ±50 V: ±0.7 % - @ 0 ... +60 °C; ±0.5 % @ Ucm = 0 V; @ Ucm = ±50 V: ±0.9 % - @ -25 ... +70 °C;
- Current, relative to input range, (+/-) 0.3 %; @ Ucm = 0 V; @ Ucm = ±50 V: ±0.4 % @ 0 ... +60 °C; ±0.5% @ Ucm = 0 V; @ Ucm = ±50 V: ±0.6% @ -25 ... +70 °C

Basic error limit (operational limit at 25 °C)

- Voltage, relative to input range, (+/-) 0.05 %
- Current, relative to input range, (+/-) 0.05 %

Interrupts/diagnostics/status information

Diagnostics function Yes; Parameterizable

Alarms

- Diagnostic alarm Yes; Parameterizable
- Limit value alarm Yes; Parameterizable, channels 0 and 2

Diagnoses

- Diagnostic information readable Yes

Diagnostics indication LED

- Group error SF (red) Yes

Potential separation

Potential separation analog inputs

- between the channels No
- between the channels, in groups of 2
- between the channels and backplane bus Yes

Isolation

Isolation tested with 500 V DC

Standards, approvals, certificates

CE mark Yes

UL approval Yes; File E239877

RCM (formerly C-TICK) Yes

KC approval Yes

EAC (formerly Gost-R) Yes

Railway application

- EN 50155 Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985)

Ambient conditions

Ambient temperature during operation

- min. -25 °C; = Tmin
- max. 70 °C; = Tmax; for use on railway vehicles according to EN 50155, the rated temperature range -25 ... +55 °C (T1) or 60 °C @ UL/UL hazardous use applies

Ambient temperature during storage/transportation

- min. -40 °C
- max. 70 °C

Altitude during operation relating to sea level

- Installation altitude above sea level, max. 5 000 m
- Ambient air temperature-barometric pressure-altitude Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K)

at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)

Relative humidity

- With condensation, tested in accordance with IEC 60068-

2-38, max.

100 %; RH incl. condensation/frost (no commissioning under condensation conditions)

Resistance

Use in stationary industrial systems

— to biologically active substances according to EN

60721-3-3

Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna);

Class 3B3 on request

— to chemically active substances according to EN

60721-3-3

Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *

— to mechanically active substances according to EN

60721-3-3

Yes; Class 3S4 incl. sand, dust, *

Use on land craft, rail vehicles and special-purpose vehicles

— to biologically active substances according to EN

60721-3-5

Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna);

Class 5B3 on request

— to chemically active substances according to EN

60721-3-5

Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *

— to mechanically active substances according to EN

60721-3-5

Yes; Class 5S3 incl. sand, dust; *

Use on ships/at sea

— to biologically active substances according to EN

60721-3-6

Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request

— to chemically active substances according to EN

60721-3-6

Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *

— to mechanically active substances according to EN

60721-3-6

Yes; Class 6S3 incl. sand, dust; *

Usage in industrial process technology

— Against chemically active substances acc. to EN

60654-4

Yes; Class 3 (excluding trichlorethylene)

— Environmental conditions for process, measuring

and control systems acc. to ANSI/ISA-71.04

Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level

LC3 (salt spray) and level LB3 (oil)

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Remark

— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04

* The supplied plug covers must remain in place over the unused interfaces during operation!

connection method

required front connector 40-pin

Dimensions

Width 40 mm

Height 125 mm

Depth 117 mm

Weights

Weight, approx. 272 g

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