SIEMENS

Data sheet 6AG1331-7SF00-4AB0

Figure similar

SIPLUS S7-300 SM 331 AI 20-pole based on 6ES7331-7SF00-0AB0 with conformal coating, 0…+60 °C, without PTB approval

General information	
based on	6ES7331-7SF00-0AB0
Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
Input current	
from backplane bus 5 V DC, max.	120 mA
Power loss	
Power loss, typ.	0.6 W
Analog inputs	
Number of analog inputs	8; 8x thermocouples; 4x RTD thermoresistors
Input ranges	
● Voltage	Yes
● Current	No
● Thermocouple	Yes
● Resistance thermometer	Yes
● Resistance	Yes
Input ranges (rated values), thermocouples	
● type B	Yes
— Input resistance (Type B)	10 MΩ
● Type E	Yes
— Input resistance (Type E)	10 MΩ
● Type J	Yes
— Input resistance (type J)	10 MΩ
● Type K	Yes
— Input resistance (Type K)	10 MΩ
● Type L	Yes
— Input resistance (Type L)	10 MΩ
● Type N	Yes
— Input resistance (Type N)	10 MΩ
● Type R	Yes
— Input resistance (Type R)	10 MΩ
● Type S	Yes
— Input resistance (Type S)	10 MΩ
● Type T	Yes
— Input resistance (Type T)	10 MΩ
● Type U	Yes
— Input resistance (Type U)	10 MΩ

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Input ranges (rated values), resistance thermometer	
● Ni 100	Yes
— Input resistance (Ni 100)	10 MΩ
● Pt 100	Yes
— Input resistance (Pt 100)	10 MΩ
● Pt 200	Yes
— Input resistance (Pt 200)	10 MΩ
Cable length	
● shielded, max.	200 m; TC: 50 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	16 bit; 10 bit to 15 bit + sign
● Integration time, parameterizable	Yes; 2.5 to 100 ms
● Interference voltage suppression for interference frequency f1 in Hz	10 to 400 Hz
Encoder	
Connection of signal encoders	
● for current measurement as 2-wire transducer	Yes
● for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Operational error limit in overall temperature range	
● Resistance thermometer, relative to input range, (+/-)	0.09 to 0.04%
Basic error limit (operational limit at 25 °C)	
● Resistance thermometer, relative to input range, (+/-)	0.1 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnoses	
● Diagnostic information readable	Yes
● Overrange	Yes
● Wire-break in signal transmitter cable	Yes
● Short-circuit of the signal encoder cable	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
● Channel fault indicator F (red)	Yes
Ex(i) characteristics	
Module for Ex(i) protection	Yes
maximum values for connecting terminals for gas group IIC	
● Uo (no-load voltage), max.	5.9 V
● Io (short-circuit current), max.	28.8 mA
● Po (power output), max.	41.4 mW
● Co (permissible external capacity), max.	43 µF
● Lo (permissible external inductivity), max.	40 mH
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	
● ATEX certificate	KEMA 09 ATEX 0077X
Railway application	
● EN 50155	No
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C; = Tmin
● max.	60 °C; = Tmax
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C

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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 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)
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	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	210 g

Classifications

	Version	Classification
eClass	16	27-24-22-01
eClass	14	27-24-22-01
eClass	12	27-24-22-01
eClass	9.1	27-24-22-01
eClass	9	27-24-22-01
eClass	8	27-24-22-01
eClass	7.1	27-24-22-01
eClass	6	27-24-22-01
ETIM	10	EC001420
ETIM	9	EC001420
ETIM	8	EC001420
ETIM	7	EC001420
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval	EMV

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