SIEMENS

Data sheet 6AG1331-7RD00-2AB0

SIPLUS S7-300 SM 331 4AI -25...+60°C -25...+70°C (only 4-wire) with conformal coating based on 6ES7331-7RD00-0AB0

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	250 mA
from backplane bus 5 V DC, max.	60 mA
Output voltage	
Power supply to the transmitters	
• Rated value (DC)	13 V; at 22 mA
Power loss	
Power loss, typ.	3 W
Analog inputs	
Number of analog inputs	4
permissible input current for current input (destruction limit), max.	40 mA

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Input ranges	
• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	50 Ω
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	50 Ω
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; 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	
• Current, relative to input range, (+/-)	0.45 %
Basic error limit (operational limit at 25 °C)	
• Current, 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

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Module for Ex(i) protection	Yes
Max. values of input circuits for gas group IIC (per channel)	
• Co (permissible external capacity), max.	90 nF
• Io (short-circuit current), max.	68.5 mA
• Lo (permissible external inductivity), max.	7.5 mH
• Po (power of load), max.	431 mW
• Ri, max.	50 Ω
• Uo (output no-load voltage), max.	25.2 V

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	
• Type of protection acc. to EN 50020 (CENELEC)	[EEx ib] IIC
• Type of protection acc. to FM	Class I, Division 2, Group A, B, C, D T4
• Test number PTB	Ex-96.D.2092X
Railway application	
• EN 50121-4	No
• EN 50155	No

Ambient conditions

Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use, 70 °C only 4 wire
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

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— 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.	290 g

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