Data sheet

SIPLUS SM 331 AI 8x0/4...20 mA -25...+70°C with conformal coating based on 6ES7331-7TF01-0AB0



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.	20 mA
from backplane bus 5 V DC, max.	120 mA
Output voltage	
Power supply to the transmitters	
• Rated value (DC)	24 V
Power loss	
Power loss, typ.	1.5 W
Analog inputs	
Number of analog inputs	8
permissible input current for current input (destruction limit), max.	40 mA

Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time (ms) Integration time (ms) Interference voltage suppression for interference frequency f1 in Hz Encoder Connection of signal encoders In for current measurement as 2-wire transducer In for current measurement as 4-wire transducer In for	Input ranges	
Thermocouple Resistance thermometer Resistance No Input ranges (rated values), currents O to 20 mA Input resistance (0 to 20 mA) Page (rated values) and the value of the	Voltage	No
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interference frequency f1 in 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, (+/-) Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) • Current, relative to input range, (+/-) 0.1 %	Integration time (ms)	20 ms at 50 Hz; 16.6 ms at 60 Hz; 100 ms at 100 Hz
Connection of signal encoders • for current measurement as 2-wire transducer • for current measurement as 4-wire transducer Frors/accuracies Operational error limit in overall temperature range • Current, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) O.15 %; ±0.25 % @ < 0 °C or > 60 °C	 Interference voltage suppression for 	10 / 50 / 60 Hz
Operational error limit in overall temperature range • Current, relative to input range, (+/-)	interference frequency f1 in Hz	
• for current measurement as 2-wire transducer • for current measurement as 4-wire transducer Yes Errors/accuracies Operational error limit in overall temperature range • Current, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) 0.1 %	Encoder	
• for current measurement as 4-wire transducer Yes Errors/accuracies Operational error limit in overall temperature range • Current, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) 0.1 %	Connection of signal encoders	
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 Current, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) Current, relative to input range, (+/-) 0.15 %; ±0.25 % @ < 0 °C or > 60 °C 0.1 % 	Errors/accuracies	
Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) 0.1 %	Operational error limit in overall temperature range	
• Current, relative to input range, (+/-) 0.1 %	Current, relative to input range, (+/-)	0.15 %; ±0.25 % @ < 0 °C or > 60 °C
3.7(.7)	Basic error limit (operational limit at 25 °C)	
	Current, relative to input range, (+/-)	0.1 %
	Interrupts/diagnostics/status information	
Diagnostics function Yes	Diagnostics function	Yes
Alarms	Alarms	
Diagnostic alarm Yes	Diagnostic alarm	Yes
Limit value alarm Yes	A Limit value alama	Yes
Diagnostic messages	■ Limit value alarm	
Diagnostic information readable Yes		
Diagnostics indication LED	Diagnostic messages	Yes
• Group error SF (red) Yes	Diagnostic messages • Diagnostic information readable	Yes

Potential separation	
Potential separation analog inputs	
• between the channels	No
• between the channels, in groups of	8
 between the channels and backplane bus 	Yes
between the channels and the power supply of	Yes
the electronics	
Isolation	
Isolation tested with	500
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 50121-4	No
● EN 50155	No
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	70 °C; = Tmax; 60 °C @ UL/cUL use
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 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	117 mm
Weights	
Weights Weight, approx.	205 g