



Figure similar

spare part SIPLUS S7-300 SM 331 AI 8x0/4...20 mA based on 6ES7331-7TF01-0AB0 with conformal coating, -25...+70 °C,

General information	
based on	6ES7331-7TF01-0AB0
Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> • Rated value (DC) • Reverse polarity protection 	24 V 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	
<ul style="list-style-type: none"> • 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
Input ranges	
<ul style="list-style-type: none"> • Voltage • Current • Thermocouple • Resistance thermometer • Resistance 	No Yes No No No
Input ranges (rated values), currents	
<ul style="list-style-type: none"> • 0 to 20 mA <ul style="list-style-type: none"> — Input resistance (0 to 20 mA) • -20 mA to +20 mA <ul style="list-style-type: none"> — Input resistance (-20 mA to +20 mA) • 4 mA to 20 mA <ul style="list-style-type: none"> — Input resistance (4 mA to 20 mA) 	Yes 240 Ω 240 Ω 240 Ω
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	800 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Integration time (ms) 	16 bit Yes 20 ms at 50 Hz; 16.6 ms at 60 Hz; 100 ms at 100 Hz

• Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 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, (+/-)	0.15 %; $\pm 0.25\% @ < 0^\circ\text{C}$ or $> 60^\circ\text{C}$
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.1 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes
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	8
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
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																																											
Weight, approx.	205 g																																										
Classifications																																											
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Approvals / Certificates
General Product Approval



[Manufacturer Declaration](#)



[China RoHS](#)



[KC](#)

EMV	For use in hazardous locations
	CCC-Ex
	ATEX

last modified:

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