

SIPLUS S7-300 SM 331-20-pole medial exposure with conformal coating based on 6ES7331-7SF00-0AB0 without PTB approval



Figure similar

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
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	
Measurement principle	Sigma Delta
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	
Temperature error (relative to input range), (+/-)	Temperature error: 0.001 to 0.002 %/K
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> Resistance thermometer, relative to input range, (+/-) 	0.09 to 0.04%
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> Resistance thermometer, relative to input range, (+/-) 	0.1 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, $f_1 =$ interference frequency	
<ul style="list-style-type: none"> Series mode interference (peak value of interference < rated value of input range), min. 	60 dB
<ul style="list-style-type: none"> Common mode interference, min. 	130 dB
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnostic messages	
<ul style="list-style-type: none"> Diagnostic information readable 	Yes
<ul style="list-style-type: none"> Overrange 	Yes
<ul style="list-style-type: none"> Wire-break in signal transmitter cable 	Yes
<ul style="list-style-type: none"> Short-circuit of the signal encoder cable 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> Group error SF (red) 	Yes
<ul style="list-style-type: none"> Channel fault indicator F (red) 	Yes
Ex(i) characteristics	
Module for Ex(i) protection	Yes
Maximum values of input circuits (per channel)	
<ul style="list-style-type: none"> Co (permissible external capacity), max. 	43 μ F
<ul style="list-style-type: none"> Io (short-circuit current), max. 	28.8 mA
<ul style="list-style-type: none"> Lo (permissible external inductivity), max. 	40 mH
<ul style="list-style-type: none"> Po (power of load), max. 	41.4 mW
<ul style="list-style-type: none"> Uo (output no-load voltage), max. 	5.9 V
Potential separation	
Potential separation analog inputs	
<ul style="list-style-type: none"> Potential separation analog inputs 	Yes
Permissible potential difference	
between the inputs (UCM)	60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area
Between the inputs and MANA (UCM)	60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area
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	
• Test number KEMA	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
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; *
Remark	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability

- Military testing according to MIL-I-46058C, Amendment 7
- Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Discoloration of coating possible during service life

Yes; Conformal coating, Class A

Connection method

required front connector 20-pin

Weights

Weight, approx. 210 g

last modified: 12/14/2018