

SIPLUS S7-300 SM 332-20-pole -25...+70 °C with conformal coating
 Conformity with EN 50155 T1 Kat 1 KI A/B based on 6ES7332-5HB01-0AB0 . Analog output isolated, "2 AI, U/I; Resolution 11/12 bit
 20-pole, Removing/inserting with active backplane bus possible

Supply voltage

Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V; A power supply according to EN 50155 shall be used for railway applications
<ul style="list-style-type: none"> Reverse polarity protection 	Yes

Input current

from load voltage L+ (without load), max.	135 mA
from backplane bus 5 V DC, max.	60 mA

Power loss

Power loss, typ.	3 W
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Analog outputs

Number of analog outputs	2
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	25 mA
Current output, no-load voltage, max.	18 V

Output ranges, voltage

<ul style="list-style-type: none"> 0 to 10 V 	Yes
<ul style="list-style-type: none"> 1 V to 5 V 	Yes
<ul style="list-style-type: none"> -10 V to +10 V 	Yes

Output ranges, current

<ul style="list-style-type: none"> 0 to 20 mA 	Yes
<ul style="list-style-type: none"> -20 mA to +20 mA 	Yes
<ul style="list-style-type: none"> 4 mA to 20 mA 	Yes

Load impedance (in rated range of output)

<ul style="list-style-type: none"> with voltage outputs, min. 	1 k Ω
<ul style="list-style-type: none"> with voltage outputs, capacitive load, max. 	1 μ F
<ul style="list-style-type: none"> with current outputs, max. 	500 Ω
<ul style="list-style-type: none"> with current outputs, inductive load, max. 	10 mH

Cable length

<ul style="list-style-type: none"> shielded, max. 	200 m
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Analog value generation for the outputs

Integration and conversion time/resolution per channel	
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<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. Conversion time (per channel) 	12 bit; ± 10 V, ± 20 mA, 4 mA to 20 mA, 1 V to 5 V: 11 bit + sign; 0 V to 10 V, 0 mA to 20 mA: 12 bit 0.8 ms
Settling time	
<ul style="list-style-type: none"> for resistive load for capacitive load for inductive load 	0.2 ms 3.3 ms 0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
Errors/accuracies	
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> Voltage, relative to output range, (+/-) Current, relative to output range, (+/-) 	0.5 %; ± 0.6 % @ < 0 °C or > 60 °C 0.6 %; ± 0.7 % @ < 0 °C or > 60 °C
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> Voltage, relative to output range, (+/-) Current, relative to output range, (+/-) 	0.4 % 0.5 %
Interrupts/diagnostics/status information	
Diagnostic functions	Yes; Parameterizable
Substitute values connectable	Yes; Parameterizable
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes; Parameterizable
Diagnostic messages	
<ul style="list-style-type: none"> Diagnostic information readable 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> Group error SF (red) 	Yes
Potential separation	
Potential separation analog outputs	
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes
Isolation	
Isolation tested with	500 V DC
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
FM approval	Yes; CofC 3028431
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Railway application	
<ul style="list-style-type: none"> EN 50121-4 EN 50155 	No Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007
Ambient conditions	

Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	70 °C; = Tmax; for use on railway vehicles according to EN50155, the rated temperature range -25 ... +55 °C (T1) or 60 °C @ UL/ULhaz/ATEX/FM use applies
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 land craft, rail vehicles and special-purpose vehicles	
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 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; *
from supply voltage 1L+	
— Note regarding classification of environmental conditions acc. to EN 60721	* 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.	220 g
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last modified: 05/16/2018