

SIPLUS S7-300 SM 332 4AO U/I -25...+70 °C with conformal coating based on 6ES7332-5HD01-0AB0 . Analog output SM 332, isolated, "4 AO, U/I; diagnostics;" resolution 11/12 bits, 20-pole, removing and inserting possible with active backplane bus

Supply voltage

Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes

Input current

from load voltage L+ (without load), max.	240 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	4
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

• 0 to 10 V	Yes
• 1 V to 5 V	Yes
• -10 V to +10 V	Yes

Output ranges, current

• 0 to 20 mA	Yes
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes

Load impedance (in rated range of output)

• with voltage outputs, min.	1 k Ω
• with voltage outputs, capacitive load, max.	1 μ F
• with current outputs, max.	500 Ω
• with current outputs, inductive load, max.	10 mH

Cable length

• 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 No
Ambient conditions	
Ambient temperature during operation	

• min.	-25 °C; = Tmin
• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM 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; *
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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