



Figure similar

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

General information	
based on	<a href="#">6ES7332-5HD01-0AB0</a>
Product function	
<ul style="list-style-type: none"> <li>• Isochronous mode</li> </ul>	No
Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• Reverse polarity protection</li> </ul>	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
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	
<ul style="list-style-type: none"> <li>• 0 to 10 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• 1 V to 5 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• -10 V to +10 V</li> </ul>	Yes
Output ranges, current	
<ul style="list-style-type: none"> <li>• 0 to 20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• -20 mA to +20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• 4 mA to 20 mA</li> </ul>	Yes
Connection of actuators	
<ul style="list-style-type: none"> <li>• for voltage output four-wire connection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• for current output two-wire connection</li> </ul>	Yes
Load impedance (in rated range of output)	
<ul style="list-style-type: none"> <li>• with voltage outputs, min.</li> </ul>	1 kΩ
<ul style="list-style-type: none"> <li>• with voltage outputs, capacitive load, max.</li> </ul>	1 μF
<ul style="list-style-type: none"> <li>• with current outputs, max.</li> </ul>	500 Ω
<ul style="list-style-type: none"> <li>• with current outputs, inductive load, max.</li> </ul>	10 mH
Cable length	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	200 m
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	

<ul style="list-style-type: none"> <li>Resolution with overrange (bit including sign), max.</li> </ul>	12 bit; $\pm 10$ V, $\pm 20$ 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
<ul style="list-style-type: none"> <li>Conversion time (per channel)</li> </ul>	0.8 ms
<b>Settling time</b>	
<ul style="list-style-type: none"> <li>for resistive load</li> </ul>	0.2 ms
<ul style="list-style-type: none"> <li>for capacitive load</li> </ul>	3.3 ms
<ul style="list-style-type: none"> <li>for inductive load</li> </ul>	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
<b>Errors/accuracies</b>	
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.5 %; $\pm 0.6$ % @ $< 0$ °C or $> 60$ °C
<ul style="list-style-type: none"> <li>Current, relative to output range, (+/-)</li> </ul>	0.6 %; $\pm 0.7$ % @ $< 0$ °C or $> 60$ °C
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.4 %
<ul style="list-style-type: none"> <li>Current, relative to output range, (+/-)</li> </ul>	0.5 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes; Parameterizable
Substitute values connectable	Yes; Parameterizable
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>	Yes; Parameterizable
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>Diagnostic information readable</li> </ul>	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>Group error SF (red)</li> </ul>	Yes
<b>Potential separation</b>	
Potential separation analog outputs	
<ul style="list-style-type: none"> <li>between the channels</li> </ul>	No
<ul style="list-style-type: none"> <li>between the channels and backplane bus</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Between the channels and load voltage L+</li> </ul>	Yes
<ul style="list-style-type: none"> <li>between the channels and the power supply of the electronics</li> </ul>	Yes
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
<b>Railway application</b>	
<ul style="list-style-type: none"> <li>EN 50121-4</li> </ul>	No
<ul style="list-style-type: none"> <li>EN 50155</li> </ul>	No
<b>Ambient conditions</b>	
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>min.</li> </ul>	-25 °C; = Tmin
<ul style="list-style-type: none"> <li>max.</li> </ul>	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> <li>min.</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>max.</li> </ul>	70 °C
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m
<ul style="list-style-type: none"> <li>Ambient air temperature-barometric pressure-altitude</li> </ul>	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	
<ul style="list-style-type: none"> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
<b>Resistance</b>	
Use in stationary industrial systems	
<ul style="list-style-type: none"> <li>— to biologically active substances according to EN 60721-3-3</li> </ul>	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, *
<b>Use on ships/at sea</b>	
— 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; *
<b>Usage in industrial process technology</b>	
— 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)
<b>Remark</b>	
— 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
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**Dimensions**

Width	40 mm
Height	125 mm
Depth	120 mm

**Weights**

Weight, approx.	220 g
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**Classifications**

	Version	Classification
eClass	14	27-24-22-01
eClass	12	27-24-22-01
eClass	9.1	27-24-22-01
eClass	9	27-24-22-01
eClass	8	27-24-22-01
eClass	7.1	27-24-22-01
eClass	6	27-24-22-01
ETIM	10	EC001420
ETIM	9	EC001420
ETIM	8	EC001420
ETIM	7	EC001420
IDEA	4	3562
UNSPSC	15	32-15-17-05

**Approvals / Certificates**

**General Product Approval**



[Manufacturer Declaration](#)



[China RoHS](#)



**EMV For use in hazardous locations**



[CCC-Ex](#)

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