

## Data sheet

## 6AG1223-1QH32-4XB0



Figure similar

SIPLUS S7-1200 SM 1223 8DI/DQ based on 6ES7223-1QH32-0XB0 with conformal coating, -20...+60 °C, SIMATIC S7-1200, digital inputs/ output SM 1223, 8 DI AC/8 DQ RLY, 8 DI 120/230 V AC, 8 DQ relay 2 A

General information	
Product type designation	SM 1223, DI 8x120/230 V AC, DQ 8x relay
based on	<a href="#">6ES7223-1QH32-0XB0</a>
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, max.	120 mA
Output voltage	
Power supply to the transmitters	
• present	Yes
Power loss	
Power loss, typ.	7.5 W
Digital inputs	
Number of digital inputs	8
• in groups of	4
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	8
horizontal installation	
— up to 40 °C, max.	8
— up to 50 °C, max.	8
vertical installation	
— up to 40 °C, max.	8
Input voltage	
• Type of input voltage	AC
• Rated value (AC)	120/230 V AC
• for signal "0"	20 V AC at 1 mA
• for signal "1"	79 V AC at 2.5 mA
Input current	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", min.	2.5 mA
• for signal "1", typ.	9 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in

		groups of four
for interrupt inputs	— parameterizable	Yes
Cable length		
• shielded, max.	500 m	
• unshielded, max.	300 m	
<b>Digital outputs</b>		
Number of digital outputs	8	
• in groups of	4	
Short-circuit protection	No; to be provided externally	
Switching capacity of the outputs		
• with resistive load, max.	2 A	
• on lamp load, max.	30 W with DC, 200 W with AC	
Output voltage		
• Rated value (DC)	5 V DC to 30 V DC	
• Rated value (AC)	5 V AC to 250 V AC	
Output current		
• for signal "1" rated value	2 A	
• for signal "1" permissible range, max.	2 A	
Output delay with resistive load		
• "0" to "1", max.	10 ms	
• "1" to "0", max.	10 ms	
Total current of the outputs (per group)		
horizontal installation		
— up to 50 °C, max.	8 A; Current per mass	
Relay outputs		
• Number of relay outputs	8	
• Rated supply voltage of relay coil L+ (DC)	24 V	
• Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000	
Switching capacity of contacts		
— with inductive load, max.	2 A	
— on lamp load, max.	30 W with DC, 200 W with AC	
— with resistive load, max.	2 A	
Cable length		
• shielded, max.	500 m	
• unshielded, max.	150 m	
<b>Interrupts/diagnostics/status information</b>		
Alarms		
• Diagnostic alarm	Yes	
Diagnostics indication LED		
• for status of the inputs	Yes	
• for status of the outputs	Yes	
<b>Potential separation</b>		
Potential separation digital inputs		
• between the channels, in groups of	2	
Potential separation digital outputs		
• between the channels	Relays	
• between the channels, in groups of	2	
• between the channels and backplane bus	1 500 V AC for 1 minute	
<b>Permissible potential difference</b>		
between different circuits	750 V AC for 1 minute	
<b>Degree and class of protection</b>		
IP degree of protection	IP20	
<b>Standards, approvals, certificates</b>		
Ecological footprint		
• environmental product declaration	Yes	
Global warming potential		
— global warming potential, (total) [CO2 eq]	123 kg	
— global warming potential, (during production) [CO2]	12.1 kg	

eq]		
— global warming potential, (during operation) [CO <sub>2</sub> eq]	111 kg	
— global warming potential, (after end of life cycle) [CO <sub>2</sub> eq]	-0.434 kg	
<b>Ambient conditions</b>		
Free fall		
• Fall height, max.	0.3 m; five times, in product package	
Ambient temperature during operation		
• min.	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C	
• 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.	2 000 m	
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 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		
Coolants and lubricants		
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	
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!	
Conformal coating		
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	
<b>Connection method</b>		
required front connector	Yes	
<b>Mechanics/material</b>		
Enclosure material (front)		
• Plastic	Yes	
<b>Dimensions</b>		
Width	45 mm	
Height	100 mm	

Depth	75 mm	
<b>Weights</b>		
Weight, approx.	230 g	
<b>Classifications</b>		
	<b>Version</b>	<b>Classification</b>
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

#### Approvals / Certificates

General Product Approval

EMV

[Manufacturer Declaration](#)



[China RoHS](#)



[KC](#)

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Maritime application

Environment



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