## SIEMENS

## Data sheet

## 6AG1222-1HF32-4XB0



SIPLUS S7-1200 SM 1222 8DQ RLY based on 6ES7222-1HF32-0XB0 with conformal coating, -20...+60  $^\circ\text{C},$  digital output 8 DQ, relay 2 A

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General information	
Product type designation	SM 1222, DQ 8x relay/2 A
based on	6ES7222-1HF32-0XB0
Supply voltage	
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
Digital outputs	
<ul> <li>from load voltage L+, max.</li> </ul>	11 mA/relay coil
Power loss	
Power loss, typ.	4.5 W
Digital outputs	
Number of digital outputs	8
• in groups of	2
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
<ul> <li>with resistive load, max.</li> </ul>	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	
<ul> <li>for signal "1" rated value</li> </ul>	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.	10 A; Current per mass
Relay outputs	
<ul> <li>Number of relay outputs</li> </ul>	8
<ul> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>	24 V
<ul> <li>Number of operating cycles, max.</li> </ul>	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	

<ul> <li>shielded, max.</li> <li>unshielded, max.</li> <li>10 m</li> <li>unshielded, max.</li> <li>10 m</li> <li>blagnostics/status information</li> <li>Ves</li> <li>Alarms</li> <li>Diagnostic alarm</li> <li>Yes</li> <li>Diagnostic alarm</li> <li>Ves</li> <li>Diagnostic indication LED</li> <li>for status of the outputs</li> <li>Yes</li> <li>Potential separation</li> <li>Potential separation digital outputs</li> <li>between the channels</li> <li>petween the channels</li> <li>between the channels</li> <li>between the channels and backplane bus</li> <li>1 500 V AC for 1 minute</li> <li>Petretial difference</li> <li>between different circuits</li> <li>750 V AC for 1 minute</li> <li>Petretial class of protection</li> <li>IP degree of protection</li> <li>IP degree of protection</li> <li>Standards, approvals, certificates</li> <li>Ecological footprint</li> <li>environmental product declaration</li> <li>Yes</li> <li>Global warming potential, (during operation) [CO2 eq]</li> <li>eglobal warming potential, (during operation) [CO2</li> </ul>	
Interrupts/diagnostics/status information           Diagnostics function         Yes           Alarms         •           • Diagnostic alarm         Yes           Diagnoses         •           • Monitoring the supply voltage         Yes           Diagnostics indication LED         •           • for status of the outputs         Yes           • for maintenance         Yes           Potential separation         •           Potential separation digital outputs         •           • between the channels         Relay, dry contact           • between the channels and backplane bus         1 500 V AC for 1 minute           Permissible potential difference         •           between different circuits         750 V AC for 1 minute           Pogree and class of protection         IP20           Standards, approvals, certificates         •           Ecological footprint         •           • environmental product declaration         Yes           Global warming potential, (during production) [CO2 eq]         68.6 kg           - global warming potential, (during operation) [CO2 eq]         60.7 kg	
Diagnostics function     Yes       Alarms     Yes       Diagnostic alarm     Yes       Diagnostic alarm     Yes       Diagnostic sindication LED     Yes       • for status of the outputs     Yes       • for maintenance     Yes       Potential separation     Yes       • between the channels     Relay, dry contact       • between the channels, in groups of     2       • between the channels and backplane bus     1 500 V AC for 1 minute       Permissible potential difference     Degree and class of protection       IP degree of protection     IP20       Standards, approvals, certificates       Ecological footprint       • environmental product declaration     Yes       Global warming potential, (during operation) [CO2 eq]     68.6 kg       - global warming potential, (during operation) [CO2 eq]     60.7 kg	
Alarms       Yes         Diagnoses       *         • Monitoring the supply voltage       Yes         Diagnostics indication LED       *         • for status of the outputs       Yes         • for maintenance       Yes         Potential separation       Yes         Potential separation digital outputs       *         • between the channels       Relay, dry contact         • between the channels in groups of       2         • between the channels in groups of       2         • between the channels and backplane bus       1 500 V AC for 1 minute         Permissible potential differenco       *         between different circuits       750 V AC for 1 minute         Permissible potential differenco       *         between different circuits       750 V AC for 1 minute         Degree and class of protection       IP20         Standards, approvals, certificates       *         Ecological footprint       *         • environmental product declaration       Yes         Global warming potential, (during production) [CO2       68.6 kg         - global warming potential, (during operation) [CO2       60.7 kg         - global warming potential, (during operation) [CO2       60.7 kg <td></td>	
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Diagnoses       Yes         Origonoses       Yes         Diagnostics indication LED       Yes         • for status of the outputs       Yes         • for maintenance       Yes         Potential separation       Yes         Potential separation digital outputs       Relay, dry contact         • between the channels       Relay, dry contact         • between the channels in groups of       2         • between the channels and backplane bus       1 500 V AC for 1 minute         Permissible potential difference       Degree and class of protection         IP degree of protection       IP20         Standards, approvals, certificates       Ecological footprint         • environmental product declaration       Yes         Global warming potential, (total) [CO2 eq]       68.6 kg         - global warming potential, (during production) [CO2       8.16 kg         - global warming potential, (during operation) [CO2       60.7 kg	
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Diagnostics indication LED         • for status of the outputs         • for status of the outputs         • for maintenance         Yes         Potential separation         Potential separation digital outputs         • between the channels         • between the channels, in groups of         • between the channels and backplane bus         1 500 V AC for 1 minute         Permissible potential difference         between different circuits         750 V AC for 1 minute         Pegree and class of protection         IP degree of protection         IP degree of protection         Global warming potential         - global warming potential, (total) [CO2 eq]         68.6 kg         - global warming potential, (during operation) [CO2         eq]       60.7 kg	
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Potential separation         Potential separation digital outputs         • between the channels       Relay, dry contact         • between the channels in groups of       2         • between the channels and backplane bus       1 500 V AC for 1 minute         Permissible potential difference       500 V AC for 1 minute         Degree and class of protection       750 V AC for 1 minute         IP degree of protection       IP20         Standards, approvals, certificates       500 V AC for 1 minute         Ecological footprint       900 V AC for 1 minute         • environmental product declaration       Yes         Global warming potential, (total) [CO2 eq]       68.6 kg         - global warming potential, (during operation) [CO2 eq]       68.7 kg         - global warming potential, (during operation) [CO2 eq]       60.7 kg	
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Standards, approvals, certificates         Ecological footprint         • environmental product declaration       Yes         Global warming potential       Yes	
Ecological footprint         • environmental product declaration       Yes         Global warming potential	
environmental product declaration Yes Global warming potential	
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<ul> <li>global warming potential, (during production) [CO2 8.16 kg</li> <li>eq]</li> <li>global warming potential, (during operation) [CO2 60.7 kg</li> <li>eq]</li> </ul>	
eq] — global warming potential, (during operation) [CO2 60.7 kg eq]	
— global warming potential, (during operation) [CO2 60.7 kg eq]	
eq]	
— global warming potential, (after end of life cycle) -0.334 kg [CO2 eq]	
Ambient conditions	
Free fall	
• Fall height, max. 0.3 m; five times, in product package	
Ambient temperature during operation	
• min20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C	
• max. 60 °C; = Tmax	
At cold restart, min.     0 °C	
Ambient temperature during storage/transportation	
• min40 °C	
• max. 70 °C	
Altitude during operation relating to sea level	
Installation altitude above sea level, max.     2 000 m	( <b>T</b>
<ul> <li>Ambient air temperature-barometric pressure-altitude</li> <li>Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmi</li> <li>10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tm at 658 hPa 540 hPa (+3 500 m +5 000 m); above 2 000 m max.</li> </ul>	ax - 20 K)
Relative humidity	
• With condensation, tested in accordance with IEC 60068- 2-38, max. 100 %; RH incl. condensation/frost (no commissioning under condensation)	ation
Resistance	
Coolants and lubricants	
- Resistant to commercially available coolants and Iubricants Yes; Incl. diesel and oil droplets in the air	
Use in stationary industrial systems	
- to biologically active substances according to EN Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of	fauna).
60721-3-3	i auria),
60721-3-3Class 3B3 on request— to chemically active substances according to ENYes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (state)	
60721-3-3       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 (s degree 3); *	
60721-3-3       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 (s degree 3); *	everity

	degree 3); *			
60721-3-6 — to mechanically active substances according to EN	Yes; Class 6S3 incl. sand, dust	f- *		
60721-3-6		ι,		
Usage in industrial process technology				
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> </ul>	Yes; Class 3 (excluding trichlorethylene)			
<ul> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	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	LOS (Salt Spray) and level LDS	(01)		
— Note regarding classification of environmental	* The supplied plug covers mus	st remain in place over t	he unused interfaces	
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				
<ul> <li>Coatings for printed circuit board assemblies acc. to EN 61086</li> </ul>	Yes; Class 2 for high reliability			
<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection			
<ul> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life			
<ul> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A</li> </ul>	Yes; Conformal coating, Class A			
nnection method				
equired front connector	Yes			
echanics/material				
Enclosure material (front)				
Plastic	Yes			
nensions				
Vidth	45 mm			
leight	100 mm			
Depth	75 mm			
eights				
Neight, approx.	190 g			
lassifications				
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