SIEMENS

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SIPLUS SM 1222 digital output modules

Overview

- Digital outputs as a supplement to the integral I/O of the CPUs
- For flexible adaptation of the controller to the corresponding task
- For subsequent expansion of the system with additional outputs
- From +60 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$, max. 50% of the inputs can be controlled simultaneously

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Application

Digital output modules permit the output of digital signals from the controller to the process.

This provides users with the following advantages:

- · Optimum adaptation:
- With signal modules which can be mixed as desired, users can adapt their controllers exactly to the relevant task. This avoids superfluous investments. Modules with 8, 16, and 32 input/output channels are available.
- Flexibility

If the task is expanded subsequently, the controller can be upgraded. Updating of the user program is extremely simple.

Function

The SM 1222 digital output signal modules convert the internal signal level of the SIMATIC S7-1200 Controller into the external signal level required for the process.

Technical specifications

Article number	6AG1222-1BF32- 2XB0	2- 6AG1222-1BF32- 6AG1222-1BH32- 4XB0 2XB0		6AG1222-1BH32- 4XB0	
	SIPLUS S7-1200 SM 1222 8DQ	SIPLUS S7-1200 SM 1222 8DQ	SIPLUS S7-1200 SM 1222 16DQ	SIPLUS S7-1200 SM 1222 16DQ	
General information					
Product type designation	SM 1222, DQ 8x24 V DC/0.5 A	SM 1222, DQ 8x24 V DC/0.5 A	SM 1222, DQ 16x24 V DC/0.5 A	SM 1222, DQ 16x24 V DC/0.5 A	
Supply voltage					
permissible range, lower limit (DC)	20.4 V	20.4 V	20.4 V	20.4 V	
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	
Input current					
from backplane bus 5 V DC, max.	120 mA	120 mA	140 mA	140 mA	
Power loss					
Power loss, typ.	1.5 W	1.5 W	2.5 W	2.5 W	
Digital outputs					
Number of digital outputs	8	8	16	16	
in groups of	1	1	1	1	
Short-circuit protection	No; to be provided externally	No; to be provided externally	No; to be provided externally	No; to be provided externally	
Limitation of inductive shutdown voltage to	typ. (L+) -48 V	typ. (L+) -48 V	typ. (L+) -48 V	typ. (L+) -48 V	
Switching capacity of the outputs					
 with resistive load, max. 	0.5 A	0.5 A	0.5 A	0.5 A	
• on lamp load, max.	5 W	5 W	5 W	5 W	
Output voltage	·-	•	•		
 Rated value (DC) 	24 V	24 V	24 V	24 V	
• for signal "0", max.	0.1 V; with 10 kOhm load	0.1 V; with 10 kOhm load	0.1 V; with 10 kOhm load	0.1 V; with 10 kOhm load	
• for signal "1", min.	20 V DC	20 V DC	20 V DC	20 V DC	
Output current					
for signal "1" rated value	0.5 A	0.5 A	0.5 A	0.5 A	
for signal "0" residual	10 μΑ	10 μΑ	10 μΑ	10 μΑ	
current, max.					
Output delay with resistive load				•	
• "0" to "1", max.	50 µs	50 μs	50 μs	50 µs	
• "1" to "0", max.	200 μs	200 μs	200 μs	200 μs	
Total current of the outputs (per group)		•			
horizontal installation					
— up to 50 °C, max.	4 A; Current per mass	4 A; Current per mass	8 A; Current per mass	8 A; Current per mass	
Relay outputs					
Switching capacity of contacts					
— with inductive load, max.	0.5 A	0.5 A	0.5 A	0.5 A	
— on lamp load, max.	5 W	5 W	5 W	5 W	
— with resistive load, max.	0.5 A	0.5 A	0.5 A	0.5 A	
Cable length					
 shielded, max. 	500 m	500 m	500 m	500 m	

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Article number	6AG1222-1BF32- 2XB0 SIPLUS S7-1200 SM 1222 8DQ	6AG1222-1BF32- 4XB0 SIPLUS S7-1200 SM 1222 8DQ	6AG1222-1BH32- 2XB0 SIPLUS S7-1200 SM 1222 16DQ	6AG1222-1BH32- 4XB0 SIPLUS S7-1200 SM 1222 16DQ
unshielded, max.	150 m	150 m	150 m	150 m
Interrupts/diagnostics/status		•		,
Information Diagnostics function	Yes	Yes	Yes	Yes
Alarms		-		
Diagnostic alarm	Yes	Yes	Yes	Yes
DiagnosesMonitoring the supply voltage	Yes	Yes	Yes	Yes
Diagnostics indication LED				
• for status of the outputs	Yes	Yes	Yes	Yes
for maintenance	Yes	Yes	Yes	Yes
Potential separation Potential separation digital outputs				
between the channels, in	1	1	1	1
groups of • between the channels and	500 V AC	500 V AC	500 V AC	500 V AC
backplane bus Degree and class of protection				
IP degree of protection	IP20	IP20	IP20	IP20
Ambient conditions Free fall				
• Fall height, max.	0.3 m; five times, in	0.3 m; five times, in	0.3 m; five times, in	0.3 m; five times, in
Ambient temperature during	product package	product package	product package	product package
operation	40 °C: - Tmi- /:	20 °C: = Tmi- /:	40 °C: - Tmi- (:	20 °C - Tmi- /:
min.max.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C 70 °C; = Tmax; Tmax >+60 °C number of simultaneously activated outputs 4	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C 60 °C; = Tmax	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 8	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C 60 °C; = Tmax
	(no adjacent points) for horizontal mounting position	0.00	(no adjacent points) for horizontal mounting position	0.00
At cold restart, min. Ambient temperature during	-25 °C	0 °C	-25 °C	0 °C
Ambient temperature during storage/transportation				
• min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	70 °C	70 °C	70 °C	70 °C
Altitude during operation relating to sea level Installation altitude above	5 000 m	5 000 m	5 000 m	5 000 m
sea level, max.	Tmin Tmax at 1	Tmin Tmax at 1	Tmin Tmay at 1	Tmin Tmax at 1
 Ambient air temperature- barometric pressure-altitude 	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)	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)	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 43 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)	140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa
Relative humidity				
With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	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	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems				
 to biologically active substances according to EN 60721-3-3 	exception of fauna);	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	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			
 to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand. dust. *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea				
 to biologically active substances according to EN 60721-3-6 	(onordaning iddina),	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
 to chemically active substances according to EN 60721-3-6 	75 %) incl. salt spray	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
	*	-	-	-

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 to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *			
Usage in industrial process				
technology — Against chemically active	Yes; Class 3	Yes; Class 3	Yes; Class 3	Yes; Class 3
substances acc. to EN 60654-4	(excluding trichlorethylene)	(excluding trichlorethylene)	(excluding trichlorethylene)	(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)	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)	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)	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	* The cumplied plug	* The cumplied plug	* The aumplied plug	* The ounnied plug
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!	* 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 Yes; Conformal			
Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	coating, Class A	coating, Class A	coating, Class A	coating, Class A
connection method / header				•
required front connector	Yes	Yes	Yes	Yes
Mechanics/material Enclosure material (front) • Plastic	Yes	Yes	Yes	Yes
Dimensions	,		-	
Width Height	45 mm 100 mm	45 mm 100 mm	45 mm 100 mm	45 mm 100 mm
Depth Weights	75 mm	75 mm	75 mm	75 mm
Weight, approx.	180 g	180 g	220 g	220 g
Article number	6AG1222-1HF32- 2XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1HF32- 4XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1XF32- 2XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1XF32- 4XB0 SIPLUS S7-1200 SM 1222 8DQ RLY
General information				,
Product type designation Supply voltage	SM 1222, DQ 8x relay/2 A			
permissible range, lower limit (DC)	20.4 V	20.4 V	20.4 V	20.4 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Input current from backplane bus 5 V DC, max.	120 mA	120 mA	140 mA	140 mA
Digital outputs ● from load voltage L+, max.	11 mA/relay coil	11 mA/relay coil	16.7 mA/relay coil	16.7 mA/relay coil
Power loss Power loss, typ. Digital outputs	4.5 W	4.5 W	5 W	5 W
Number of digital outputs • in groups of	8 2	8 2	8	8
Short-circuit protection	No; to be provided externally			
Switching capacity of the outputs			·	·
with resistive load, max.	2 A	2 A	2 A	2 A
• on lamp load, max.	30 W with DC, 200 W with AC	30 W with DC, 200 W with AC	30 W with DC, 200 W with AC	30 W with DC, 200 W with AC
Output voltage	5 V DC to 20 V DC			
Rated value (DC)	5 V DC to 30 V DC 5 V AC to 250 V AC	5 V DC to 30 V DC 5 V AC to 250 V AC	5 V DC to 30 V DC 5 V AC to 250 V AC	5 V DC to 30 V DC 5 V AC to 250 V AC
Rated value (AC) Output current	- V / 10 10 200 V AC	- V //O 10 200 V AO	- V // C 10 200 V AC	
for signal "1" rated value	2 A	2 A		

	SIPLUS S7-1200 SM	6AG1222-1HF32- 4XB0 SIPLUS S7-1200 SM	6AG1222-1XF32- 2XB0 SIPLUS S7-1200 SM	6AG1222-1XF32- 4XB0 SIPLUS S7-1200 SM
• for signal "1" permissible	1222 8DQ RLY	1222 8DQ RLY	1222 8DQ RLY 2 A	1222 8DQ RLY 2 A
range, max. Output delay with resistive load				
• "0" to "1", max.	10 ms	10 ms	10 ms	10 ms
• "1" to "0", max.	10 ms	10 ms	10 ms	10 ms
Total current of the outputs (per group)				
horizontal installation — up to 50 °C, max.	10 A; Current per mass	10 A; Current per mass	2 A; Current per mass	2 A; Current per mass
Relay outputs	- Made			
 Number of relay outputs 	8	8	8	8
 Rated supply voltage of relay coil L+ (DC) 	24 V	24 V	24 V	24 V
 Number of operating cycles, max. 	mechanically 10 million, at rated load voltage 100 000	mechanically 10 million, at rated load voltage 100 000	mechanically 10 million, at rated load voltage 100 000	mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	0.4	0.4	0.4	0.4
— with inductive load, max.	2 A	2 A	2A	2 A
— on lamp load, max.	30 W with DC, 200 W with AC	30 W with DC, 200 W with AC	30 W with DC, 200 W with AC	30 W with DC, 200 W with AC
— with resistive load, max.	2 A	2 A	2 A	2 A
Cable length	500 m	500 m	500 m	500 m
shielded, max.				
unshielded, max. Interrupts/diagnostics/status	150 m	150 m	150 m	150 m
Interrupts/diagnostics/status information Diagnostics function	Yes	Yes	Yes	Yes
Alarms Diagnostic alarm	Yes	Yes	Yes	Yes
Diagnoses				
 Monitoring the supply 	Yes	Yes		
voltage				
Diagnostics indication LED	Yes	Yes	Yes	Yes
for status of the outputs for maintenance	Yes	Yes	Yes	Yes
• for maintenance Potential separation			· -	
Potential separation Potential separation digital outputs				
 between the channels 	Relay, dry contact	Relay, dry contact	Relays	Relays
 between the channels, in groups of 	2	2	1	1
 between the channels and backplane bus 	1 500 V AC for 1 minute	1 500 V AC for 1 minute	1 500 V AC for 1 minute	1 500 V AC for 1 minute
Permissible potential difference between different circuits	750 V AC for 1 minute	750 V AC for 1 minute	750 V AC for 1 minute	750 V AC for 1 minute
Degree and class of protection				
IP degree of protection Standards, approvals, certificates	IP20	IP20	IP20	IP20
Marine approval			Yes	Yes
Ambient conditions				
Free fall	0.3 m; five times, in	0.3 m; five times, in		
Fall height, max. Ambient temperature during	product package	product package		
operation				
• min.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C
• max.	70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 4 (no adjacent points) for horizontal	60 °C; = Tmax	70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 4 (no adjacent points) for horizontal	60 °C; = Tmax
• At cold restart, min.	mounting position -25 °C	0 °C	mounting position -25 °C	0 °C
Ambient temperature during	.=	. =		
storage/transportation • min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	70 °C	70 °C	70 °C	70 °C
Altitude during operation relating to sea level		-		
Installation altitude above	2 000 m	2 000 m	2 000 m	2 000 m
sea level, max.	Toda To 14	Tarin To 14	Torin Torin 11	Torin Torin 14
 Ambient air temperature- barometric pressure-altitude 	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -

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Article number	6AG1222-1HF32- 2XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1HF32- 4XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1XF32- 2XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1XF32- 4XB0 SIPLUS S7-1200 SM 1222 8DQ RLY		
	above 2 000 m max. 132 V AC					
Relative humidity ● Operation at 25 °C without condensation, max.			95 %	95 %		
With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (nc commissioning under condensation conditions)		
Resistance						
Coolants and lubricants — Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	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	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	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); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 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	Yes; Class 6B2 mold					
 to biologically active substances according to EN 60721-3-6 	and fungal spores (excluding fauna);	and fungal spores (excluding fauna); Class 6B3 on request	and fungal spores (excluding fauna);	and fungal spores (excluding fauna);		
 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); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	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)	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)	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 (oii)	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 (oii)	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 (oii)	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	* The average of a large	* The supplied above	* The supplied above	* The assertion delice		
— 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	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	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					
connection method / header	Yes	Yes	Yes	Yes		
required front connector Mechanics/material	169	169	169	169		
Enclosure material (front) • Plastic	Yes	Yes	Yes	Yes		
Dimensions						
	45 mm 100 mm 75 mm					

	6AG1222-1HF32- 2XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222-1HF32- 4XB0 SIPLUS S7-1200 SM 1222 8DQ RLY	6AG1222 2XB0 SIPLUS S 1222 8D0	S7-1200 SM	6AG1222-1XF32- 4XB0 SIPLUS S7-1200 S 1222 8DQ RLY
Weight, approx.	190 g	190 g	310 g		310 g
Article number	6/	AG1222-1HH32-2XB0		6AG1222-11	H32-4XB0
	S	PLUS S7-1200 SM 122	2 16DQ	SIPLUS S7-	1200 SM 1222 16DC
General information	<u>R</u>	LY		RLY	
Product type designation	S	M 1222, DQ 16x relay/2	Α	SM 1222, D	Q 16x relay/2 A
Supply voltage					
permissible range, lower limit (DC) permissible range, upper limit (DC)).4 V 3.8 V		20.4 V 28.8 V	
nput current	<u></u>				
from backplane bus 5 V DC, max.	13	35 mA		135 mA	
Digital outputs	11	mA/relay coil		11 mA/relay	coil
from load voltage L+, max.		marelay con		TTTIII/viciay	COII
Power loss Power loss, typ.	8.	5 W		8.5 W	
Digital outputs		•			
Number of digital outputs	16	5		16	
in groups of	1			1	
Short-circuit protection		o; to be provided externa	ally	No; to be pro	ovided externally
 witching capacity of the outputs with resistive load, max. 	2	A		2 A	
on lamp load, max.) W with DC, 200 W with	AC		C, 200 W with AC
• on lamp load, max. Output voltage		, -50 710	-		
Rated value (DC)	5	V DC to 30 V DC		5 V DC to 30) V DC
Rated value (AC)		V AC to 250 V AC		5 V AC to 25	60 V AC
Output current					
for signal "1" rated value	2	A		2 A	
Output delay with resistive load					
• "0" to "1", max.	10) ms		10 ms	
• "1" to "0", max.	10) ms		10 ms	
otal current of the outputs (per	roup)				
orizontal installation	, ,				
— up to 50 °C, max.	10	A; Current per mass		10 A; Curren	t per mass
Relay outputs					
 Number of relay outputs 	16			16	
 Rated supply voltage of relay 	coil L+ (DC) 24	I V		24 V	
 Number of operating cycles, 		echanically 10 million, a ad voltage 100 000	t rated	mechanically load voltage	/ 10 million, at rated 100 000
Switching capacity of contacts		aa vanaga 100 000		loud vollago	
- with inductive load, max.	2	A		2 A	
— on lamp load, max.	30	W with DC, 200 W with	AC	30 W with D	C, 200 W with AC
- with resistive load, max.	2	A		2 A	
Cable length	•				
 shielded, max. 	50	00 m		500 m	
 unshielded, max. 	15	50 m		150 m	
nterrupts/diagnostics/status info	rmation				
Diagnostics function	Ye	es		Yes	
Alarms	Ye	ae .		Yes	
Diagnostic alarm Diagnoses				163	
 Monitoring the supply voltage 	Ye	es		Yes	
Diagnostics indication LED	<u>. </u>				
for status of the outputs	Ye	es		Yes	
for maintenance	Ye	es		Yes	
otential separation					
otential separation digital outpu	ts				
 between the channels 	R	elays		Relay, dry co	ontact
between the channels, in gro	ups of 4			4	
between the channels and bar	ckplane bus 1	500 V AC for 1 minute		1 500 V AC	for 1 minute
Permissible potential difference	-				
between different circuits	75	50 V AC for 1 minute		750 V AC for	1 minute
Degree and class of protection IP degree of protection	IC	20		IP20	
Ambient conditions	IP	۷		11 20	
ree fall					
 Fall height, max. 		3 m; five times, in produ ackage	ct	0.3 m; five ti package	mes, in product
Ambient temperature during ope				Passage	
• min.	-4	0 °C; = Tmin (incl. ondensation/frost); start-	ມກ <i>@</i> -25	-20 °C; = Tm	nin (incl. n/frost); start-up @ (
	°(· ·		°C	,
• max.) °C; = Tmax; Tmax > +6 imber of simultaneously		60 °C; = Tm	ax
	OL	itputs 8 (no adjacent poi	nts) for		
- At ooldtt '		orizontal mounting positi 5 °C	on	0 °C	
 At cold restart, min. 					

2/25/23, 9:59 AM	SIPLUS SM 1222 digital output m			
Article number	6AG1222-1HH32-2XB0 SIPLUS S7-1200 SM 1222 16DQ RLY	6AG1222-1HH32-4XB0 SIPLUS S7-1200 SM 1222 16DQ RLY		
• min.	-40 °C	-40 °C		
• max.	70 °C	70 °C		
Altitude during operation relating to sea level		,		
 Installation altitude above sea level, max. 	2 000 m	2 000 m		
Ambient air temperature-barometric pressure- altitude	(Tmax - 20 K) at 658 hPa 540	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); above 2 000 m max. 132 V AC		
Relative humidity	100 %; RH incl. condensation/frost	100 %; RH incl. condensation/frost		
 With condensation, tested in accordance with IEC 60068-2-38, max. 	(no commissioning under condensation conditions)	(no commissioning under condensation conditions)		
Resistance	condensation conditions)	condensation conditions)		
Coolants and lubricants				
 Resistant to commercially available coolants and lubricants 	Yes; Incl. diesel and oil droplets in the air	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	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); *	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, *	Yes; Class 3S4 incl. sand, dust, *		
Use on ships/at sea	Yes; Class 6B2 mold and fungal	Yes; Class 6B2 mold and fungal		
to biologically active substances according to EN 60721-3-6	spores (excluding fauna); Class 6B3 on request	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); *	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; *	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)	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)	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	* The supplied plug covers must	* The supplied plug covers must		
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	remain in place over the unused interfaces during operation!	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	Yes; Class 2 for high reliability		
 Protection against fouling acc. to EN 60664-3 	Yes; Type 1 protection	Yes; Type 1 protection		
 Military testing according to MIL-I-46058C, Amendment 7 	Yes; Discoloration of coating possible during service life	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	Yes; Conformal coating, Class A		
connection method / header				
required front connector	Yes	Yes		
Mechanics/material				
Enclosure material (front) • Plastic	Yes	Yes		
Dimensions				
Width	45 mm	45 mm		
Height	100 mm	100 mm		
Depth	75 mm	75 mm		
Weights				