

SIPLUS SB 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 respective task
- For subsequent expansion of the system with additional outputs
- Can be plugged directly into the CPU
- From +60 °C to +70 °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

The SB 1222 digital output signal boards enable the digital signals of the controller to be output to the process.

Design

The Signal Boards are plugged straight into the holder on the front of the S7-1200-CPU.

- Mounting:
Signal Boards are plugged direct into the SIMATIC S7-1200-CPU and linked electrically and mechanically with the CPU in this way.
- The installation dimensions of the CPU remain unchanged.
- On all Signal Boards, replacement is facilitated by removable terminals ("permanent wiring").

Function

The SB 1222 digital input/output signal board converts the internal signal level of the S7-1200 controller to the external signal level required for the process.

Technical specifications

Article number	6AG1222-1AD30-5XB0 SIPLUS S7-1200 SB 1222 4DQ 5VDC	6AG1222-1BD30-5XB0 SIPLUS S7-1200 SB 1222 4DQ 24VDC
General information		
Product type designation	SB 1222, DQ 4x5 V DC 200 kHz	SB 1222, DQ 4x24 V DC 200 kHz
Engineering with		
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275	see entry ID: 109746275
Input current		
from backplane bus 5 V DC, typ.	50 mA	50 mA
output voltage / header		
supply voltage of the transmitters / header		
• supply current / from supply voltage for transmitter / maximum	4 mA; per channel	4 mA; per channel
Power loss		
Power loss, typ.	0,5 W	0,5 W
Digital outputs		
Number of digital outputs	4	4
• in groups of	1	1
Short-circuit protection	No	No
Switching capacity of the outputs		
• with resistive load, max.	0.1 A	0.1 A
Load resistance range		
• upper limit	5 Ω	10 Ω
Output voltage		
• Rated value (DC)	5 V	24 V
• for signal "0", max.	0.4 V	1 V; with 10 kOhm load
• for signal "1", min.	L+ (-0.5 V)	L+ (-1.5 V)
• for signal "1", max.	6 V	
Output current		
• for signal "1" permissible range, max.	0.1 A	0.1 A
• for signal "0" residual current, max.		10 µA
Cable length		
• shielded, max.	50 m	50 m
Interrupts/diagnostics/status information		
Alarms	Yes	Yes
Diagnostics function	Yes	Yes
Diagnostics indication LED		
• for status of the outputs	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• min.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C

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	SIPLUS S7-1200 SB 1222 4DQ 5VDC	SIPLUS S7-1200 SB 1222 4DQ 24VDC
• max.	60 °C; = Tmax	60 °C; = Tmax
Ambient temperature during storage/transportation		
• min.	-40 °C	-40 °C
• max.	70 °C	70 °C
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	5 000 m	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)	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 in bedewed state), horizontal installation	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
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
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		
— to biologically active substances according to EN 60721-3-6	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	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		
— 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	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
Mechanics/material		
Enclosure material (front)		
• Plastic	Yes	Yes
Dimensions		
Width	38 mm	38 mm
Height	62 mm	62 mm
Depth	21 mm	21 mm
Weights		
Weight, approx.	40 g	40 g