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## Data sheet 6AG1223-0BD30-4XB0



SIPLUS S7-1200 SB 1223 2DI/2DQ based on 6ES7223-0BD30-0XB0 with conformal coating, -20…+60 °C, start up 0 °C, digital input/output 2 DI 24 V DC/2 DQ 24 V DC

| | |
|---|---|
| **General information** | |
| Product type designation | SB 1223, DI 2x24 V DC/DQ 2x24 V DC |
| based on | 6ES7223-0BD30-0XB0 |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | see entry ID: 109746275 |
| **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, typ. | 50 mA |
| **output voltage / header** | |
| supply voltage of the transmitters / header | |
| ● Supply current, max. | 4 mA; per channel |
| **Power loss** | |
| Power loss, typ. | 1 W |
| **Digital inputs** | |
| Number of digital inputs | 2; Current-sinking |
| ● in groups of | 1 |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Number of simultaneously controllable inputs | |
| all mounting positions | |
| — up to 40 °C, max. | 2 |
| Input voltage | |
| ● Rated value (DC) | 24 V |
| ● for signal "0" | 0 to 5 V |
| ● for signal "1" | +15 to +30 V |
| Input current | |
| ● for signal "0", max. (permissible quiescent current) | 1 mA |
| ● for signal "1", typ. | 7 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 |
| — at "0" to "1", max. | 2 µs |
| — at "1" to "0", max. | 10 µs |
| for interrupt inputs | |
| — parameterizable | Yes |
| for technological functions | |
| — parameterizable | Yes |
| Cable length | |


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|---|---|
| ● shielded, max. | 50 m |
| **Digital outputs** | |
| Number of digital outputs | 2; MOSFET, solid-state (current-sinking/current-sourcing) |
| ● in groups of | 1 |
| Short-circuit protection | No |
| Switching capacity of the outputs | |
| ● with resistive load, max. | 0.5 A |
| ● on lamp load, max. | 5 W |
| Load resistance range | |
| ● upper limit | 0.6 Ω |
| Output voltage | |
| ● Rated value (DC) | 24 V |
| ● for signal "0", max. | 0.1 V; with 10 kOhm load |
| ● for signal "1", min. | 20 V |
| Output current | |
| ● for signal "1" rated value | 0.5 A |
| ● for signal "1" permissible range, max. | 0.5 A |
| ● for signal "0" residual current, max. | 10 µA |
| Cable length | |
| ● shielded, max. | 50 m |
| **Interrupts/diagnostics/status information** | |
| Alarms | Yes |
| Diagnostics function | Yes |
| Diagnostics indication LED | |
| ● for status of the inputs | Yes |
| ● for status of the outputs | Yes |
| **Ambient conditions** | |
| Free fall | |
| ● Fall height, max. | 0.3 m; five times, in product package |
| Ambient temperature during operation | |
| ● min. | -20 °C; = Tmin (incl. condensation/frost) |
| ● 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. | 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) |
| Relative humidity | |
| ● With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state) |
| 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) |


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| — 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 |
| **Mechanics/material** | |
| Enclosure material (front) | |
| ● Plastic | Yes |
| **Dimensions** | |
| Width | 38 mm |
| Height | 62 mm |
| Depth | 21 mm |
| **Weights** | |
| Weight, approx. | 40 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| 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**

EG-Konf. | Manufacturer Declaration | UKCA | China RoHS | UL | KC

**EMV**

RCM

**EMV**

ATEX | IECEx | CCC

**For use in hazardous locations**

DNV

**Maritime application**

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