SIEMENS

## Data sheet 6AG1232-4HA30-5XB0



SIPLUS S7-1200 SB 1232 1AQ based on 6ES7232-4HA30-0XB0 with conformal coating, -40…+60 °C, start up -25 °C, analog output 1 AQ, +/-10 V DC (12 bit resolution) or 0-20 mA (11 bit resolution)

| | |
|---|---|
| **General information** | |
| Product type designation | SB 1232, AQ 1x12 bit |
| based on | 6ES7232-4HA30-0XB0 |
| **Input current** | |
| from backplane bus 5 V DC, typ. | 15 mA |
| **Output voltage** | |
| Power supply to the transmitters | |
| ● Supply current, max. | 25 mA |
| **Power loss** | |
| Power loss, typ. | 1.5 W |
| **Analog inputs** | |
| Number of analog inputs | 0 |
| **Analog outputs** | |
| Number of analog outputs | 1 |
| Cycle time (all channels) max. | Voltage: 300 µS (R), 750 µS (1 uF) Current: 600 ms (1 mH); 2 ms (10 mH) |
| Output ranges, voltage | |
| ● -10 V to +10 V | Yes |
| Output ranges, current | |
| ● 0 to 20 mA | Yes |
| Load impedance (in rated range of output) | |
| ● with voltage outputs, min. | 1 000 Ω |
| ● with current outputs, max. | 600 Ω |
| Cable length | |
| ● shielded, max. | 100 m; shielded, twisted pair |
| **Analog value generation for the outputs** | |
| Conversion principle | Differential |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 12 bit |
| **Errors/accuracies** | |
| Temperature error (relative to output range), (+/-) | 25 °C ±0.5 %, up to 55 °C ±1.8 % |
| **Interrupts/diagnostics/status information** | |
| Alarms | Yes |
| Diagnostics function | Yes |
| Diagnostics indication LED | |
| ● for status of the outputs | Yes |
| **Ambient conditions** | |
| Free fall | |
| ● Fall height, max. | 0.3 m; five times, in product package |


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| | |
|---|---|
| Ambient temperature during operation | |
| ● min. | -40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °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. | 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 (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 |
| **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 | 16 | 27-24-22-01 |
| eClass | 14 | 27-24-22-01 |


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| | | |
|---|---|---|
| eClass | 12 | 27-24-22-01 |
| eClass | 9.1 | 27-24-22-01 |
| eClass | 9 | 27-24-22-01 |
| eClass | 8 | 27-24-22-01 |
| eClass | 7.1 | 27-24-22-01 |
| eClass | 6 | 27-24-22-01 |
| ETIM | 10 | EC001420 |
| ETIM | 9 | EC001420 |
| ETIM | 8 | EC001420 |
| ETIM | 7 | EC001420 |
| IDEA | 4 | 3562 |
| UNSPSC | 15 | 32-15-17-05 |

## Approvals / Certificates

### General Product Approval

Manufacturer Declaration

China RoHS

Metrological Approval

### General Product Approval

China RoHS

### EMV

### For use in hazardous locations

### Maritime application

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