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## Data sheet 6AG1134-6HB00-2CA1




Figure similar

SIPLUS ET 200SP AI 2xU/I 2/4-W HF based on 6ES7134-6HB00-0CA1 with conformal coating, -40…+60 °C, analog input module, suitable for BU type A0, A1, color code CC05, channel diagnostics, 16-bit, +/-0.1%

| | |
|---|---|
| **General information** | |
| Product type designation | AI 2xU/I 2-/4-wire HF |
| Firmware version | V1.0 |
| ● FW update possible | Yes |
| based on | 6ES7134-6HB00-0CA1 |
| usable BaseUnits | BU type A0, A1 |
| Color code for module-specific color-coded label | CC03 |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| ● Isochronous mode | Yes |
| ● Measuring range scalable | No |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | see entry ID: 109746275 |
| Operating mode | |
| ● Oversampling | No |
| ● MSI | Yes |
| **CiR - Configuration in RUN** | |
| Reparameterization possible in RUN | Yes |
| Calibration possible in RUN | Yes |
| **Supply voltage** | |
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 19.2 V |
| permissible range, upper limit (DC) | 28.8 V |
| Reverse polarity protection | Yes |
| **Input current** | |
| Current consumption (rated value) | 39 mA; without sensor supply |
| **Encoder supply** | |
| 24 V encoder supply | |
| ● 24 V | Yes |
| ● Short-circuit protection | Yes |
| ● Output current, max. | 20 mA; max. 50 mA per channel for a duration < 10 s (two-wire) |
| Additional 24 V encoder supply | |
| ● Short-circuit protection | Yes; channel by channel |
| ● Output current, max. | 100 mA; max. 150 mA for a duration of < 10 s (four-wire) |
| **Power loss** | |
| Power loss, typ. | 0.95 W; without sensor supply |
| **Address area** | |
| Address space per module | |


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|---|---|
| ● Address space per module, max. | 4 byte; + 1 byte for QI information |
| **Hardware configuration** | |
| Automatic encoding | Yes |
| ● Mechanical coding element | Yes |
| ● Type of mechanical coding element | Type A |
| Selection of BaseUnit for connection variants | |
| ● 2-wire connection | BU type A0, A1 |
| ● 4-wire connection | BU type A0, A1 |
| **Analog inputs** | |
| Number of analog inputs | 2; Differential inputs |
| ● For current measurement | 2 |
| ● For voltage measurement | 2 |
| permissible input voltage for voltage input (destruction limit), max. | 30 V |
| permissible input current for current input (destruction limit), max. | 50 mA |
| Analog input with oversampling | No |
| Standardization of measured values | Yes |
| Input ranges (rated values), voltages | |
| ● 0 to +10 V | Yes; 15 bit |
| — Input resistance (0 to 10 V) | 75 kΩ |
| ● 1 V to 5 V | Yes; 15 bit |
| — Input resistance (1 V to 5 V) | 75 kΩ |
| ● -10 V to +10 V | Yes; 16 bit incl. sign |
| — Input resistance (-10 V to +10 V) | 75 kΩ |
| ● -5 V to +5 V | Yes; 16 bit incl. sign |
| — Input resistance (-5 V to +5 V) | 75 kΩ |
| Input ranges (rated values), currents | |
| ● 0 to 20 mA | Yes; 15 bit |
| — Input resistance (0 to 20 mA) | 130 Ω |
| ● -20 mA to +20 mA | Yes; 16 bit incl. sign |
| — Input resistance (-20 mA to +20 mA) | 130 Ω |
| ● 4 mA to 20 mA | Yes; 15 bit |
| — Input resistance (4 mA to 20 mA) | 130 Ω |
| Cable length | |
| ● shielded, max. | 1 000 m; 200 m for voltage measurement |
| **Analog value generation for the inputs** | |
| Measurement principle | Sigma Delta |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 16 bit |
| ● Integration time, parameterizable | Yes |
| ● Integration time (ms) | 67.5 / 22.5 / 18.75 / 10 / 5 / 2.5 / 1.25 / 0.625 ms |
| ● Basic conversion time, including integration time (ms) | 68.03 / 22.83 / 19.03 / 10.28 / 5.23 / 2.68 / 1.43 / 0.730 ms |
| ● Interference voltage suppression for interference frequency f1 in Hz | 16.6 / 50 / 60 / 300 / 600 / 1 200 / 2 400 / 4 800 |
| ● Conversion time (per channel) | 68.2 / 23 / 19.2 / 10.45 / 5.40 / 2.85 / 1.6 / 0.9 ms |
| ● Basic execution time of the module (all channels released) | 1 ms |
| Smoothing of measured values | |
| ● Number of smoothing levels | 6; none; 2-/4-/8-/16-/32-fold |
| ● Parameterizable | Yes |
| **Encoder** | |
| Connection of signal encoders | |
| ● for voltage measurement | Yes |
| ● for current measurement as 2-wire transducer | Yes |
| — Burden of 2-wire transmitter, max. | 650 Ω |
| ● for current measurement as 4-wire transducer | Yes |
| **Errors/accuracies** | |
| Linearity error (relative to input range), (+/-) | 0.01 % |
| Temperature error (relative to input range), (+/-) | 0.003 %/K |


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| Crosstalk between the inputs, min. | -50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.01 % |
| Operational error limit in overall temperature range | |
| ● Voltage, relative to input range, (+/-) | 0.2 % |
| ● Current, relative to input range, (+/-) | 0.2 % |
| Basic error limit (operational limit at 25 °C) | |
| ● Voltage, relative to input range, (+/-) | 0.05 %; 0.1 % at SFU 4.8 kHz |
| ● Current, relative to input range, (+/-) | 0.05 %; 0.1 % at SFU 4.8 kHz |
| Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency | |
| ● Common mode voltage, max. | 35 V |
| ● Common mode interference, min. | 90 dB |
| **Isochronous mode** | |
| Filtering and processing time (TCI), min. | 800 µs |
| Bus cycle time (TDP), min. | 1 ms |
| Jitter, max. | 5 µs |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes |
| ● Limit value alarm | Yes; two upper and two lower limit values in each case |
| Diagnoses | |
| ● Monitoring the supply voltage | Yes |
| ● Wire break | Yes; Measuring range 4 to 20 mA only |
| ● short-circuit | Yes; channel-by-channel, at 1 to 5 V or for short-circuit in encoder supply |
| ● Group error | Yes |
| ● Overflow/Underflow | Yes |
| Diagnostics indication LED | |
| ● Monitoring of the supply voltage (PWR-LED) | Yes; green PWR LED |
| ● Channel status display | Yes; green LED |
| ● for channel diagnostics | Yes; red LED |
| ● for module diagnostics | Yes; green/red DIAG LED |
| **Potential separation** | |
| Potential separation channels | |
| ● between the channels | Yes |
| ● between the channels and backplane bus | Yes |
| ● between the channels and the power supply of the electronics | Yes |
| **Isolation** | |
| Isolation tested with | 707 V DC (type test) |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -40 °C; = Tmin (incl. condensation/frost) |
| ● horizontal installation, max. | 60 °C; = Tmax; +70 °C with spacing modules (6AG1193-6BN00-7BA0) or configured slots to the left and right of the module including derating of the encoder supply to max. 50 mA per channel |
| ● vertical installation, min. | -40 °C; = Tmin (incl. condensation/frost); start-up @ -30 °C |
| ● vertical installation, max. | 50 °C; = Tmax |
| 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 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 |
| Use in stationary industrial systems | |


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| — 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, * |
| — Against mechanical environmental conditions acc. to EN 60721-3-3 | Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0) |
| 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; * |
| — Against mechanical environmental conditions acc. to EN 60721-3-6 | Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0) |
| 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 |
| **Dimensions** | |
| Width | 15 mm |
| Height | 73 mm |
| Depth | 58 mm |
| **Weights** | |
| Weight, approx. | 32 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-24-26-01 |
| eClass | 14 | 27-24-26-01 |
| eClass | 12 | 27-24-26-01 |
| eClass | 9.1 | 27-24-26-01 |
| eClass | 9 | 27-24-26-01 |
| eClass | 8 | 27-24-26-01 |
| eClass | 7.1 | 27-24-26-01 |
| eClass | 6 | 27-24-26-01 |
| ETIM | 10 | EC001596 |
| ETIM | 9 | EC001596 |
| ETIM | 8 | EC001596 |
| ETIM | 7 | EC001596 |
| IDEA | 4 | 3562 |
| UNSPSC | 15 | 32-15-17-05 |

**Approvals / Certificates**

**General Product Approval**


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Manufacturer Declaration

China RoHS

| General Product Approval | | | | EMV | For use in hazardous locations |
|---|---|---|---|---|---|
| | China RoHS | | | | |

| For use in hazardous locations | | | Maritime application |
|---|---|---|---|
| | CCC-Ex | CCC-Ex | |

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