SIEMENS

## Data sheet 6AG1134-6JF00-2CA1




Figure similar

SIPLUS ET 200SP AI 8xRTD/TC 2-wire based on 6ES7134-6JF00-0CA1 with conformal coating, -40…+60 °C, analog input module, suitable for BU type A0, A1, color code CC00, channel diagnostics, 16-bit, +/-0.1%

| | |
|---|---|
| **General information** | |
| Product type designation | AI 8xRTD/TC 2-wire HF |
| Firmware version | |
| ● FW update possible | Yes |
| based on | 6ES7134-6JF00-0CA1 |
| usable BaseUnits | BU type A0, A1 |
| Color code for module-specific color-coded label | CC00 |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| ● Isochronous mode | No |
| ● Measuring range scalable | Yes |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | see entry ID: 109746275 |
| Operating mode | |
| ● Oversampling | No |
| ● MSI | No |
| **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, max. | 35 mA |
| **Power loss** | |
| Power loss, typ. | 0.75 W |
| **Address area** | |
| Address space per module | |
| ● Address space per module, max. | 16 byte; + 1 byte for QI information |
| **Hardware configuration** | |
| Automatic encoding | |
| ● Mechanical coding element | Yes |
| ● Type of mechanical coding element | Type A |
| Selection of BaseUnit for connection variants | |
| ● 2-wire connection | BU type A0, A1 |
| **Analog inputs** | |


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| | |
|---|---|
| Number of analog inputs | 8 |
| permissible input voltage for voltage input (destruction limit), max. | 30 V |
| Constant measurement current for resistance-type transmitter, typ. | 2 mA |
| Cycle time (all channels), min. | Sum of the basic conversion times and additional processing times (depending on the parameterization of the active channels) |
| Technical unit for temperature measurement adjustable | Yes; °C/°F/K |
| Input ranges (rated values), voltages | |
| ● -1 V to +1 V | Yes; 16 bit incl. sign |
| — Input resistance (-1 V to +1 V) | 1 MΩ |
| ● -250 mV to +250 mV | Yes; 16 bit incl. sign |
| — Input resistance (-250 mV to +250 mV) | 1 MΩ |
| ● -50 mV to +50 mV | Yes; 16 bit incl. sign |
| — Input resistance (-50 mV to +50 mV) | 1 MΩ |
| ● -80 mV to +80 mV | Yes; 16 bit incl. sign |
| — Input resistance (-80 mV to +80 mV) | 1 MΩ |
| Input ranges (rated values), thermocouples | |
| ● type B | Yes; 16 bit incl. sign |
| — Input resistance (Type B) | 1 MΩ |
| ● type C | Yes; 16 bit incl. sign |
| — Input resistance (Type C) | 1 MΩ |
| ● Type E | Yes; 16 bit incl. sign |
| — Input resistance (Type E) | 1 MΩ |
| ● Type J | Yes; 16 bit incl. sign |
| — Input resistance (type J) | 1 MΩ |
| ● Type K | Yes; 16 bit incl. sign |
| — Input resistance (Type K) | 1 MΩ |
| ● Type L | Yes; 16 bit incl. sign |
| — Input resistance (Type L) | 1 MΩ |
| ● Type N | Yes; 16 bit incl. sign |
| — Input resistance (Type N) | 1 MΩ |
| ● Type R | Yes; 16 bit incl. sign |
| — Input resistance (Type R) | 1 MΩ |
| ● Type S | Yes; 16 bit incl. sign |
| — Input resistance (Type S) | 1 MΩ |
| ● Type T | Yes; 16 bit incl. sign |
| — Input resistance (Type T) | 1 MΩ |
| ● Type U | Yes; 16 bit incl. sign |
| — Input resistance (Type U) | 1 MΩ |
| ● Type TXK/TXK(L) to GOST | Yes; 16 bit incl. sign |
| — Input resistance (Type TXK/TXK(L) to GOST) | 1 MΩ |
| Input ranges (rated values), resistance thermometer | |
| ● Ni 100 | Yes; 16 bit incl. sign |
| — Input resistance (Ni 100) | 1 MΩ |
| ● Ni 1000 | Yes; 16 bit incl. sign |
| — Input resistance (Ni 1000) | 1 MΩ |
| ● LG-Ni 1000 | Yes; 16 bit incl. sign |
| — Input resistance (LG-Ni 1000) | 1 MΩ |
| ● Ni 120 | Yes; 16 bit incl. sign |
| — Input resistance (Ni 120) | 1 MΩ |
| ● Ni 200 | Yes; 16 bit incl. sign |
| — Input resistance (Ni 200) | 1 MΩ |
| ● Ni 500 | Yes; 16 bit incl. sign |
| — Input resistance (Ni 500) | 1 MΩ |
| ● Pt 100 | Yes; 16 bit incl. sign |
| — Input resistance (Pt 100) | 1 MΩ |
| ● Pt 1000 | Yes; 16 bit incl. sign |
| — Input resistance (Pt 1000) | 1 MΩ |
| ● Pt 200 | Yes; 16 bit incl. sign |


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|---|---|
| — Input resistance (Pt 200) | 1 MΩ |
| ● Pt 500 | Yes; 16 bit incl. sign |
| — Input resistance (Pt 500) | 1 MΩ |
| Input ranges (rated values), resistors | |
| ● 0 to 150 ohms | Yes; 15 bit |
| — Input resistance (0 to 150 ohms) | 1 MΩ |
| ● 0 to 300 ohms | Yes; 15 bit |
| — Input resistance (0 to 300 ohms) | 1 MΩ |
| ● 0 to 600 ohms | Yes; 15 bit |
| — Input resistance (0 to 600 ohms) | 1 MΩ |
| ● 0 to 3000 ohms | Yes; 15 bit |
| — Input resistance (0 to 3000 ohms) | 1 MΩ |
| ● 0 to 6000 ohms | Yes; 15 bit |
| — Input resistance (0 to 6000 ohms) | 1 MΩ |
| ● PTC | Yes; 15 bit |
| — Input resistance (PTC) | 1 MΩ |
| Thermocouple (TC) | |
| Temperature compensation | |
| — Parameterizable | Yes |
| — Reference channel of the module | Yes |
| — internal comparison point | Yes; with BaseUnit type A1 |
| — Reference channel of the group | Yes |
| — Number of reference channel groups | 4; Group 0 to 3 |
| — fixed reference temperature | Yes |
| Cable length | |
| ● shielded, max. | 200 m; 50 m with thermocouples |
| **Analog value generation for the inputs** | |
| Measurement principle | integrating (Sigma-Delta) |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 16 bit |
| ● Integration time, parameterizable | Yes |
| ● Basic conversion time, including integration time (ms) | |
| — additional processing time for wire-break check | 2 ms; In the ranges resistance thermometers, resistors and thermocouples |
| ● Interference voltage suppression for interference frequency f1 in Hz | 16.6 / 50 / 60 Hz |
| ● Conversion time (per channel) | 180 / 60 / 50 ms |
| Smoothing of measured values | |
| ● Number of smoothing levels | 4; None; 4/8/16 times |
| ● Parameterizable | Yes |
| **Encoder** | |
| Connection of signal encoders | |
| ● for voltage measurement | Yes |
| ● for resistance measurement with two-wire connection | Yes |
| ● for resistance measurement with three-wire connection | No |
| ● for resistance measurement with four-wire connection | No |
| **Errors/accuracies** | |
| Linearity error (relative to input range), (+/-) | 0.01 %; ±0.1 % for resistance thermometers and resistance |
| Temperature error (relative to input range), (+/-) | 0.0009 %/K; ±0.005 % / K at thermocouple |
| Crosstalk between the inputs, min. | -50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.05 % |
| Operational error limit in overall temperature range | |
| ● Voltage, relative to input range, (+/-) | 0.2 % |
| ● Resistance, relative to input range, (+/-) | 0.2 % |
| Basic error limit (operational limit at 25 °C) | |
| ● Voltage, relative to input range, (+/-) | 0.05 % |
| ● Resistance, relative to input range, (+/-) | 0.05 % |
| Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency | |
| ● Series mode interference (peak value of interference < rated value of input range), min. | 70 dB |


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|---|---|
| ● Common mode voltage, max. | 10 V |
| ● Common mode interference, min. | 90 dB |
| **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; channel by channel |
| ● Group error | Yes |
| ● Overflow/Underflow | Yes; channel by channel |
| 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 | No |
| ● between the channels and backplane bus | Yes |
| ● between the channels and the power supply of the electronics | Yes |
| **Permissible potential difference** | |
| between the inputs (UCM) | 10 V DC |
| **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 |
| ● vertical installation, min. | -40 °C; = Tmin (incl. condensation/frost) |
| ● 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 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, * |
| — 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; * |


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|---|---|
| — 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**

Manufacturer Declaration

China RoHS

| General Product Approval | EMV | For use in hazardous locations | | Maritime application |
|---|---|---|---|---|
| China RoHS | | | CCC-Ex | |

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