SIEMENS

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

SIPLUS ET 200SP AI 8xRTD/TC 2-wire -40...+60 °C with conformal coating based on 6ES7134-6JF00-0CA1 . analog input module, AI 8xRTD/TC 2-wire high feature FITS to 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
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC00
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	No
Engineering with	
● PROFIBUS from GSD version/GSD revision	GSD Revision 5
● PROFINET from GSD version/GSD revision	GSDML V2.3
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

Analog inputs	
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)

8.3.2021

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
— 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

● 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 different circuits	75 V DC/60 V AC (base isolation)
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 configured empty 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	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52

EN 60721-3-6	(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

last modified: 5/5/2021 ⬈