



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	<a href="#">6ES7134-6JF00-0CA1</a>
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	
• 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
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)
Technical unit for temperature measurement adjustable	Yes; °C/°F/K
Input ranges (rated values), voltages	

- -1 V to +1 V
  - Input resistance (-1 V to +1 V)
- -250 mV to +250 mV
  - Input resistance (-250 mV to +250 mV)
- -50 mV to +50 mV
  - Input resistance (-50 mV to +50 mV)
- -80 mV to +80 mV
  - Input resistance (-80 mV to +80 mV)

Yes; 16 bit incl. sign  
1 M $\Omega$

Yes; 16 bit incl. sign  
1 M $\Omega$

Yes; 16 bit incl. sign  
1 M $\Omega$

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1 M $\Omega$

#### Input ranges (rated values), thermocouples

- Type B
  - Input resistance (Type B)
- Type C
  - Input resistance (Type C)
- Type E
  - Input resistance (Type E)
- Type J
  - Input resistance (type J)
- Type K
  - Input resistance (Type K)
- Type L
  - Input resistance (Type L)
- Type N
  - Input resistance (Type N)
- Type R
  - Input resistance (Type R)
- Type S
  - Input resistance (Type S)
- Type T
  - Input resistance (Type T)
- Type U
  - Input resistance (Type U)
- Type TXK/TXK(L) to GOST
  - Input resistance (Type TXK/TXK(L) to GOST)

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1 M $\Omega$

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1 M $\Omega$

#### Input ranges (rated values), resistance thermometer

- Ni 100
  - Input resistance (Ni 100)
- Ni 1000
  - Input resistance (Ni 1000)
- LG-Ni 1000
  - Input resistance (LG-Ni 1000)
- Ni 120
  - Input resistance (Ni 120)
- Ni 200
  - Input resistance (Ni 200)
- Ni 500
  - Input resistance (Ni 500)
- Pt 100
  - Input resistance (Pt 100)
- Pt 1000
  - Input resistance (Pt 1000)
- Pt 200
  - Input resistance (Pt 200)
- Pt 500
  - Input resistance (Pt 500)

Yes; 16 bit incl. sign  
1 M $\Omega$

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1 M $\Omega$

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1 M $\Omega$

#### Input ranges (rated values), resistors

- 0 to 150 ohms
  - Input resistance (0 to 150 ohms)
- 0 to 300 ohms
  - Input resistance (0 to 300 ohms)
- 0 to 600 ohms
  - Input resistance (0 to 600 ohms)

Yes; 15 bit  
1 M $\Omega$

Yes; 15 bit  
1 M $\Omega$

Yes; 15 bit  
1 M $\Omega$

<ul style="list-style-type: none"> <li>• 0 to 3000 ohms <ul style="list-style-type: none"> <li>— Input resistance (0 to 3000 ohms)</li> </ul> </li> <li>• 0 to 6000 ohms <ul style="list-style-type: none"> <li>— Input resistance (0 to 6000 ohms)</li> </ul> </li> <li>• PTC <ul style="list-style-type: none"> <li>— Input resistance (PTC)</li> </ul> </li> </ul>	Yes; 15 bit 1 MΩ Yes; 15 bit 1 MΩ Yes; 15 bit 1 MΩ
<b>Thermocouple (TC)</b>	
Temperature compensation	
<ul style="list-style-type: none"> <li>— parameterizable</li> <li>— Reference channel of the module</li> <li>— internal comparison point</li> <li>— Reference channel of the group</li> <li>— Number of reference channel groups</li> <li>— fixed reference temperature</li> </ul>	Yes Yes Yes; with BaseUnit type A1 Yes 4; Group 0 to 3 Yes
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	200 m; 50 m with thermocouples
<b>Analog value generation for the inputs</b>	
Measurement principle	integrating (Sigma-Delta)
<b>Integration and conversion time/resolution per channel</b>	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> <li>• Integration time, parameterizable</li> <li>• Basic conversion time, including integration time (ms) <ul style="list-style-type: none"> <li>— additional processing time for wire-break check</li> </ul> </li> <li>• Interference voltage suppression for interference frequency f1 in Hz</li> <li>• Conversion time (per channel)</li> </ul>	16 bit Yes 2 ms; In the ranges resistance thermometers, resistors and thermocouples 16.6 / 50 / 60 Hz 180 / 60 / 50 ms
<b>Smoothing of measured values</b>	
<ul style="list-style-type: none"> <li>• Number of smoothing levels</li> <li>• parameterizable</li> </ul>	4; None; 4/8/16 times Yes
<b>Encoder</b>	
Connection of signal encoders	
<ul style="list-style-type: none"> <li>• for voltage measurement</li> <li>• for resistance measurement with two-wire connection</li> <li>• for resistance measurement with three-wire connection</li> <li>• for resistance measurement with four-wire connection</li> </ul>	Yes Yes No No
<b>Errors/accuracies</b>	
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 %
<b>Operational error limit in overall temperature range</b>	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> <li>• Resistance, relative to input range, (+/-)</li> </ul>	0.2 % 0.2 %
<b>Basic error limit (operational limit at 25 °C)</b>	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> <li>• Resistance, relative to input range, (+/-)</li> </ul>	0.05 % 0.05 %
<b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1</math> = interference frequency</b>	
<ul style="list-style-type: none"> <li>• Series mode interference (peak value of interference &lt; rated value of input range), min.</li> <li>• Common mode voltage, max.</li> <li>• Common mode interference, min.</li> </ul>	70 dB 10 V 90 dB
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> <li>• Limit value alarm</li> </ul>	Yes Yes; two upper and two lower limit values in each case
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> <li>• Wire-break</li> <li>• Group error</li> </ul>	Yes Yes; channel by channel Yes

• Overflow/underflow	Yes; channel by channel
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
<b>Permissible potential difference</b>	
between different circuits	75 V DC/60 V AC (base isolation)
between the inputs (UCM)	10 V DC
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• 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
<b>Altitude during operation relating to sea level</b>	
• 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)
<b>Relative humidity</b>	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
<b>Resistance</b>	
<b>Coolants and lubricants</b>	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>	
— 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)
<b>Use on ships/at sea</b>	
— 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)
<b>Usage in industrial process technology</b>	
— 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)
<b>Remark</b>	
— 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!
<b>Conformal coating</b>	
• Coatings for printed circuit board assemblies acc. to EN	Yes; Class 2 for high reliability

- 61086
- Protection against fouling acc. to EN 60664-3
  - Military testing according to MIL-I-46058C, Amendment 7
  - Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Type 1 protection  
Yes; Discoloration of coating possible during service life  
Yes; Conformal coating, Class A

Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.	32 g
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Classifications

	Version	Classification
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	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval	EMV
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[Miscellaneous](#)

[Manufacturer Declaration](#)



For use in hazardous locations	Marine / Shipping
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[CCC-Ex](#)



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