



SIPLUS ET 200SP AI 8xU Basic, based on 6ES7134-6FF00-0AA1 with conformal coating, -40...+60 °C, analog input module, suitable for BU type A0, A1, color code CC02, module diagnostics, 16 bit

General information	
Product type designation	AI 8xU BA
Firmware version	
• FW update possible	Yes
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC02
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
• Measuring range scalable	No
Operating mode	
• Oversampling	No
• MSI	No
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	No
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.	25 mA
Power loss	
Power loss, typ.	0.7 W
Address area	
Address space per module	
• Address space per module, max.	16 byte
Analog inputs	
Number of analog inputs	8; Single-ended
permissible input voltage for voltage input (destruction limit), max.	30 V
Cycle time (all channels), min.	1 ms; per channel
Input ranges (rated values), voltages	
• 0 to +10 V	Yes; 15 bit
— Input resistance (0 to 10 V)	100 kΩ
• -10 V to +10 V	Yes; 16 bit incl. sign
— Input resistance (-10 V to +10 V)	100 kΩ
Cable length	

<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	200 m
<b>Analog value generation for the inputs</b>	
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> <li>Resolution with overrange (bit including sign), max.</li> <li>Integration time, parameterizable</li> <li>Interference voltage suppression for interference frequency f1 in Hz</li> <li>Conversion time (per channel)</li> </ul>	16 bit Yes 16.67 / 50 / 60 / 4 800 (16.67 / 50 / 60) 180 / 60 / 50 / 0.625 (67.5 / 22.5 / 18.75) ms
Smoothing of measured values	
<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 current measurement as 4-wire transducer</li> </ul>	Yes No
<b>Errors/accuracies</b>	
Linearity error (relative to input range), (+/-)	0.02 %
Temperature error (relative to input range), (+/-)	0.009 %/K
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	
<ul style="list-style-type: none"> <li>Voltage, relative to input range, (+/-)</li> </ul>	0.9 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> <li>Voltage, relative to input range, (+/-)</li> </ul>	0.3 %
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$ , f1 = interference frequency	
<ul style="list-style-type: none"> <li>Series mode interference (peak value of interference &lt; rated value of input range), min.</li> </ul>	70 dB; With conversion time 67.5 / 22.5 / 18.75 ms: 40 dB
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> <li>Diagnostic alarm</li> <li>Limit value alarm</li> </ul>	Yes No
Diagnoses	
<ul style="list-style-type: none"> <li>Monitoring the supply voltage</li> <li>Wire-break</li> <li>Short-circuit</li> <li>Group error</li> <li>Overflow/underflow</li> </ul>	Yes No No Yes Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Channel status display</li> <li>for channel diagnostics</li> <li>for module diagnostics</li> </ul>	Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED
<b>Potential separation</b>	
Potential separation channels	
<ul style="list-style-type: none"> <li>between the channels</li> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul>	No Yes No
<b>Ambient conditions</b>	
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> </ul>	-40 °C; = Tmin (incl. condensation/frost) 60 °C; = Tmax; +70 °C with configured empty slots to the left and right of the module
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure-altitude</li> </ul>	5 000 m 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	

<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<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>	
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
<b>Dimensions</b>	
Width	15 mm
Height	73 mm
Depth	58 mm
<b>Weights</b>	
Weight, approx.	31 g
<b>last modified:</b>	10/5/2021 