

SIPLUS ET200S EM 2AI RTD -25 ... +70 DEGREES C WITH
CONFORMAL COATING BASED ON 6ES7134-4JB51-0AB0



Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V; From power module
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	30 mA
from backplane bus 3.3 V DC, max.	10 mA
Output voltage	
Power supply to the transmitters	
• present	Yes
• short-circuit proof	Yes
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
• Address space per module, max.	8 byte
Analog inputs	

Number of analog inputs	4; 2 for 3 or 4-wire connection
permissible input voltage for voltage input (destruction limit), max.	9 V
Constant measurement current for resistance-type transmitter, typ.	1.67 mA
Cycle time (all channels) max.	Number of active channels per module x basic conversion time
Technical unit for temperature measurement adjustable	No
Input ranges	
• Voltage	No
• Current	No
• Thermocouple	No
• Resistance thermometer	Yes
• Resistance	Yes
Input ranges (rated values), resistance thermometer	
• Ni 100	Yes; Standard/climate
• Input resistance (Ni 100)	2 000 kΩ
• Pt 100	Yes; Standard/climate
• Input resistance (Pt 100)	2 000 kΩ
Input ranges (rated values), resistors	
• 0 to 150 ohms	Yes
• Input resistance (0 to 150 ohms)	2 000 kΩ
• 0 to 300 ohms	Yes
• Input resistance (0 to 300 ohms)	2 000 kΩ
• 0 to 600 ohms	Yes
• Input resistance (0 to 600 ohms)	2 000 kΩ
Characteristic linearization	
• parameterizable	Yes; for Pt100, Ni100
— for resistance thermometer	Pt100 (standard, climatic range), Ni100 (standard, climatic range)
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 150 ohms: 14 bits; 300, 600 ohms: 15 bits, Pt100, Ni100: 16 bits
• Integration time, parameterizable	Yes
• Integration time (ms)	16,7 / 20 ms
• Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
• Conversion time (per channel)	66 / 80 ms; additional conversion time for diagnostic wire break test
Smoothing of measured values	

• parameterizable	Yes; In four stages by means of digital filtering
• Step: None	Yes; 1 x cycle time
• Step: low	Yes; 4 x cycle time
• Step: Medium	Yes; 32 x cycle time
• Step: High	Yes; 64 x cycle time

Encoder

Connection of signal encoders

• for resistance measurement with two-wire connection	Yes
• for resistance measurement with three-wire connection	Yes
• for resistance measurement with four-wire connection	Yes

Errors/accuracies

Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.05 %

Operational error limit in overall temperature range

• Resistance thermometer, relative to input area, (+/-)	0.6 %
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Basic error limit (operational limit at 25 °C)

• Resistance thermometer, relative to input area, (+/-)	0.4 %
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Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency

• Series mode interference (peak value of interference < rated value of input range), min.	70 dB
• Common mode interference (USS < 2.5 V), min.	90 dB

Isochronous mode

Isochronous operation (application synchronized up to terminal)	No
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Interrupts/diagnostics/status information

Diagnostic messages

• Wire-break	Yes
• Group error	Yes
• Overflow/underflow	Yes

Diagnostics indication LED

• Group error SF (red)	Yes
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Parameter

Diagnostics wire break	Disable / enable
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Measurement type/range	deactivated/150 ohms/; 300 ohms/600 ohms/ Pt100 climatic/ Pt100 standard; Ni100 standard / Ni100 climatic, 2, 3 or 4-wire
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable

Potential separation

Potential separation analog inputs

- | | |
|--|-----|
| • between the channels | No |
| • between the channels and backplane bus | Yes |
| • Between the channels and load voltage L+ | Yes |

Permissible potential difference

between MANA and M internally (UIISO)	75V DC/60V AC
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Isolation

Isolation tested with	500 V DC
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Standards, approvals, certificates

CE mark	Yes
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Ambient conditions

Ambient temperature during operation

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|--------|----------------|
| • min. | -25 °C; = Tmin |
| • max. | 70 °C; = Tmax |

Extended ambient conditions

- | | |
|--|---|
| • relative to ambient temperature-atmospheric pressure-installation altitude | Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m) |
|--|---|

Relative humidity

- | | |
|---|---|
| — With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; Relative humidity, incl. condensation / frost permitted (no commissioning under condensation conditions) |
|---|---|

Resistance

- | | |
|---|---|
| — against biologically active substances / conformity with EN 60721-3-3 | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation! |
| — against chemically active substances / conformity with EN 60721-3-3 | Yes; Class 3C4 incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation! |
| — against mechanically active substances / conformity with EN 60721-3-3 | Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation! |

Dimensions

Width	15 mm
Height	81 mm
Depth	52 mm

Weights

Weight, approx.

40 g

last modified:

09.12.2015