

SIPLUS ET 200S EM 2 AE I HF -25...+70 °C with conformal coating based on 6ES7134-4MB02-0AB0 . Electronic module 15 mm Overall width, Cycle time per module: 0.5 ms, "+/-20 mA; 15 bit+sign," "4.. 20mA; 15 bit," Operational limit +/-0.1% with SF LED (group fault)

### Supply voltage

Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes

### Input current

from load voltage L+ (without load), max.	48 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.	1.2 W
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### Address area

Address space per module	
• Address space per module, max.	4 byte

### Analog inputs

Number of analog inputs	2
permissible input current for current input (destruction limit), max.	50 mA
Cycle time (all channels) max.	0.5 ms; 0.5 ms for 2 channels without noise suppression, 18 / 21 ms per channel with noise suppression

### Input ranges

• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No

### Input ranges (rated values), currents

• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes

### Cable length

- shielded, max.

200 m

## Analog value generation for the inputs

Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> </ul>	16 bit
<ul style="list-style-type: none"> <li>• Integration time, parameterizable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Interference voltage suppression for interference frequency f1 in Hz</li> </ul>	60 / 50 Hz / no
<ul style="list-style-type: none"> <li>• Conversion time (per channel)</li> </ul>	0.04 ms; Without noise suppression 17/20 ms per channel with error
Smoothing of measured values	
<ul style="list-style-type: none"> <li>• parameterizable</li> </ul>	Yes; In 4 stages: 1 x, 4 x, 16 x, 32 x cycle time
<ul style="list-style-type: none"> <li>• Step: None</li> </ul>	Yes; 1x
<ul style="list-style-type: none"> <li>• Step: low</li> </ul>	Yes; 4x
<ul style="list-style-type: none"> <li>• Step: Medium</li> </ul>	Yes; 16x
<ul style="list-style-type: none"> <li>• Step: High</li> </ul>	Yes; 32x

## Encoder

Connection of signal encoders	
<ul style="list-style-type: none"> <li>• for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max.</li> </ul>	750 Ω

## Errors/accuracies

Linearity error (relative to input range), (+/-)	0.03 %
Temperature error (relative to input range), (+/-)	0.03 %/K
Crosstalk between the inputs, min.	-100 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> <li>• Current, relative to input range, (+/-)</li> </ul>	0.1 %; 0.2% without interference frequency suppression
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> <li>• Current, relative to input range, (+/-)</li> </ul>	0.05 %; 0.1% without interference frequency suppression
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>	90 dB
<ul style="list-style-type: none"> <li>• Common mode interference (USS &lt; 2.5 V), min.</li> </ul>	100 dB

## Isochronous mode

Isochronous operation (application synchronized up to terminal)	Yes
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## Interrupts/diagnostics/status information

Alarms	
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• Hardware interrupt	Yes
<b>Diagnostic messages</b>	
• Wire-break	Yes; Measuring range 4 to 20 mA only
• Group error	Yes
• Overflow/underflow	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Parameter</b>	
Remark	12 bytes, 4 bytes in compatibility mode
Diagnostics wire break	Disable / enable
Measurement type/range	deactivated / ±20 mA / 4 to 20 mA
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
<b>Potential separation</b>	
<b>Potential separation analog inputs</b>	
• between the channels	No; however, increased permissible potential difference between the inputs.
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	-25 °C; = Tmin
• max.	70 °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 permitted (no commissioning in bedewed state)
<b>Resistance</b>	
<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, *

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; *
from supply voltage 1L+	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm

Weights	
Weight, approx.	45 g
<b>last modified:</b>	05/16/2018