

SIPLUS ET 200S EM 2AI HF -25...+60 °C with conformal coating based on 6ES7134-4LB02-0AB0 . 2 AI U High Feature for ET 200S, 15 mm width, Cycle time per module: 0.5 ms, "+/-10 V; 15 bit+sign," "+/-5 V; 15 bit+sign, 1..5V; 15" bit, Operational limit +/-0.1% with SF LED (group fault)



Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	55 mA
from backplane bus 3.3 V DC, max.	10 mA
Output voltage	
Power supply to the transmitters	
• present	No
Power loss	
Power loss, typ.	0.85 W
Address area	
Address space per module	
• Address space per module, max.	4 byte

Analog inputs

Number of analog inputs	2
permissible input voltage for voltage input (destruction limit), max.	35 V; 35 V continuous; 75 V for max. 1 ms
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	Yes
• Current	No
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No

Input ranges (rated values), voltages

• 1 V to 5 V	Yes
• Input resistance (1 V to 5 V)	800 k Ω
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	800 k Ω
• -5 V to +5 V	Yes
• Input resistance (-5 V to +5 V)	800 k Ω

Cable length

• shielded, max.	200 m
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Analog value generation for the inputs

Integration and conversion time/resolution per channel

• Resolution with overrange (bit including sign), max.	16 bit; 0 to 5 V: 15 bits, ± 10 V: 16 bits, ± 5 V: 16 bits
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz / no
• Conversion time (per channel)	0.04 ms; Without noise suppression 17/20 ms per channel with error

Smoothing of measured values

• parameterizable	Yes; In 4 stages: 1 x, 4 x, 16 x, 32 x cycle time
• Step: None	Yes; 1x
• Step: low	Yes; 4x
• Step: Medium	Yes; 16x
• Step: High	Yes; 32x

Encoder

Connection of signal encoders

• for voltage measurement	Yes
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Errors/accuracies

Linearity error (relative to input range), (+/-)	0.01 %
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Temperature error (relative to input range), (+/-)	0.003 %/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	
• Voltage, relative to input range, (+/-)	0.15 %; 0,25% without interference frequency suppression
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.05 %; 0.1% without interference frequency suppression
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.	90 dB
• Common mode interference (USS < 2.5 V), min.	100 dB
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Interrupts/diagnostics/status information	
Alarms	
• Hardware interrupt	Yes
Diagnostic messages	
• Wire-break	Yes; Measuring range 1 to 5 V only
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
Parameter	
Remark	12 bytes, 4 bytes in compatibility mode
Measurement type/range	deactivated / $\pm 5 \text{ V}$ / 1 to 5 V / $\pm 10 \text{ V}$
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Potential separation	
Potential separation analog inputs	
• 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
Permissible potential difference	
between the inputs (UCM)	140 V DC/100 V AC
Isolation	
Isolation tested with	500 V DC

Standards, approvals, certificates

CE mark Yes

Ambient conditions

Ambient temperature during operation

- min. -25 °C; = Tmin
- max. 60 °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 permitted (no commissioning in bedewed state)

Resistance

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, *

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

last modified: 05/16/2018