



SIPLUS ET200S EM 2AI HF -25 ... +60 DEGREES C WITH CONFORMAL COATING BASED ON 6ES7134-4LB02-0AB0 . 2 AI U HIGH FEATURE FOR ET 200S, 15 MM WIDE, CYCLE TIME PER MODULE: 0.5MS, +/-10V; 15 BI + SIGN, +/-5V;15BIT+SIGN, 1..5V; 15BIT, OPERATIONAL LIMITS +/-0.1% WITH LED SF (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.	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 to 5 V	Yes
Input resistance (1 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	
Cable length, shielded, max.	200 m
Analog value generation	
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 ; 1 x
Step: Low	Yes ; 4 x
Step: Medium	Yes ; 16 x
Step: High	Yes ; 32 x
Encoder	
Connection of signal encoders	
for voltage measurement	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.0030 %/K
Crosstalk between the inputs, min.	-100 dB
Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.01 %

Operational error limit in overall temperature range	
Voltage, relative to input area, (+/-)	0.15 % ; 0,25% without interference frequency suppression
Basic error limit (operational limit at 25 °C)	
Voltage, relative to input area, (+/-)	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 mode (application synchronized up to terminal)	Yes
Interrupts/diagnostics/status information	
Alarms	
Hardware interrupt	Yes
Diagnostic messages	
Diagnostic functions	Yes
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 / +/-5 V / 1 to 5 V / +/-10 V
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Galvanic isolation	
Galvanic isolation analog inputs	
between the channels	No ; however, increased permissible potential difference between the inputs.
between the channels and the backplane bus	Yes
between the channels and the load voltage L+	Yes
Isolation	
Isolation tested with	500 V DC
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	
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, maximum	100 % ; Relative humidity, incl. condensation / frost permitted (no commissioning under condensation conditions)
Resistance	
to 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 in corrosive atmospheres!
to 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!
to 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!
Mechanical and climatic conditions during operation	
Climatic conditions in operation	
Temperature	
min.	-25 °C ; = Tmin
max.	60 °C ; = Tmax
Dimensions	
Width	15 mm
Module width, max.	15 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	45 g
Status	Jul 23, 2014