



SIPLUS ET200S EM 2AI TC HF 0 ... +70 DEGREES C WITH CONFORMAL COATING BASED ON 6ES7134-4NB01-0AB0 . 15 MM WIDE, 15 BIT + SIGN WITH INTERNAL TEMPERATURE COMPENSATION

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
Power loss	
Power loss, typ.	0.6 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.	20 V ; +/-20 V, continuous
Cycle time (all channels) max.	Number of active channels per module x basic conversion time
Technical unit for temperature measurement adjustable	Yes
Input ranges	

Voltage	Yes
Current	No
Thermocouple	Yes
Resistance thermometer	No
Resistance	No
Input ranges (rated values), voltages	
-80 mV to +80 mV	Yes
Input resistance (-80 mV to +80 mV)	1 MΩ
Input ranges (rated values), thermocouples	
Type B	Yes
Input resistance (Type B)	1 MΩ
Type C	Yes
Input resistance (Type C)	1 MΩ
Type E	Yes
Input resistance (Type E)	1 MΩ
Type J	Yes
Input resistance (type J)	1 MΩ
Type K	Yes
Input resistance (Type K)	1 MΩ
Type L	Yes
Input resistance (Type L)	1 MΩ
Type N	Yes
Input resistance (Type N)	1 MΩ
Type R	Yes
Input resistance (Type R)	1 MΩ
Type S	Yes
Input resistance (Type S)	1 MΩ
Type T	Yes
Input resistance (Type T)	1 MΩ
Thermocouple (TC)	
Characteristic linearization	
for thermocouples	Type B, C, E, J, K, L, N, R, S, T to IEC 584
Temperature compensation	
internal temperature compensation	Yes ; possible with TM-E15S24-AT, TM-E15C24-AT
external temperature compensation with compensations socket	Yes ; one external compensating box per channel
Characteristic linearization	
parameterizable	Yes
Cable length	

Cable length, shielded, max.	50 m
Analog value generation	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit
Integration time, ms	16,7 / 20 ms
Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz
Conversion time (per channel)	66 ms ; 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
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.0050 %/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	
Voltage, relative to input area, (+/-)	0.1 % ; +/-1.5 K for thermocouples, +/-7 K for thermocouples type C, +/-2.5 K with static thermal state (ambient temperature change < 0.3 K/min)
Basic error limit (operational limit at 25 °C)	
Voltage, relative to input area, (+/-)	0.05 % ; +/-1 K with thermocouples, +/-5 K with thermocouples type C, +/-1.5 K with static thermal state (ambient temperature change < 0.3 K/min)
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, f1 = 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
Interrupts/diagnostics/status information	
Diagnostic messages	
Wire-break	Yes ; only thermocouples
Group error	Yes
Overflow/underflow	Yes
Diagnostics indication LED	
Group error SF (red)	Yes

Parameter	
Remark	4 byte
Diagnostics wire break	Disable / enable (wire break is detected only in thermocouples)
Measurement type/range	Deactivated/ +/- 80 mV/ TC-EL Type T (Cu-CuNi)/ TC-EL Type K (NiCr-Ni)/ TC-EL Type B (PtRh-PtRh)/ TC-EL Type c (Wer-Wer) TC-EL Type N (NiCrSi-NiSi)/ TC-EL Type E (NiCr-CuNi)/ TC-EL Type R (PtRh-Pt)/ TC-EL Type S (PtRh-Pt)/ TC-EL Type J (Fe-Cu-Ni)/ TC
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Comparison point	none / yes, internal
Unit	Celsius / Fahrenheit
Galvanic isolation	
Galvanic isolation analog inputs	
between the channels	No
between the channels and the backplane bus	Yes
between the channels and the load voltage L+	Yes
Permissible potential difference	
between MANA and M internally (UIO)	75 VDC / 60 VAC
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!
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.	0 °C ; = Tmin
max.	70 °C ; = Tmax
Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	40 g
Status	Jul 23, 2014