SIEMENS

Data sheet 6ES7134-4NB01-0AB0

SIMATIC DP, ELECTRONIC MODULE F. ET200S, 2 AI TC HIGH FEATURE 15 MM WIDE, 15 BIT + SIGN WITH INTERNAL TEMERATURE 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 losses	
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), thermoelements	
• 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)	
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
— for thermocouples	Type B, C, E, J, K, L, N, R, S, T to IEC 584
Cable length	
• shielded, max.	50 m
Analog value creation	
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

• 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), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.05 %
Operational 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 x (f1 +/- 1 %), f1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB
• common mode voltage (USS < 2.5 V) , min.	90 dB
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
Diagnosis: 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 inputs and MANA (UCM)	140V DC/100V AC
between MANA and M internally (UISO)	75V DC/60V AC

Isolation	
Isolation checked with	500 V DC

Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm

Weights	
Weight, approx.	40 g

last modified: 12.03.2015