MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7134-4JB01-0AB0

TWO-CHANNEL THERMOCOUPLE INPUT MODULE

Used with the applicable SIMATIC ET 200S configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens 6ES7134-4JB01-0AB0 official product data; applicable specification pages.

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Data sheet 6ES7134-4JB01-0AB0



SIMATIC DP, Electronics module for ET 200S, 2 AI TC Standard; 15 mm width, 15 bit+sign +/-80 mV; Characteristic linearization for thermocouples of the types: B, E, J, K, L, N, R, S, T Cycle time 65 ms/channel with SF LED (group fault)

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.	10 V; Permanent
Cycle time (all channels) max.	Number of active channels per module x basic conversion time

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Technical unit for temperature measurement adjustable	No; Celsius
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 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	Not possible
— external temperature compensation with compensations socket	Yes; possible, one external compensating box per channel
Characteristic linearization	
• parameterizable	Yes; Type B, E, J, K, L, N, R, S, T to IEC 584
Cable length	
• shielded, max.	50 m

Analog value generation for the inputs	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 15 bit + sign
• Integration time, parameterizable	Yes
• Integration time (ms)	16,7 / 20 ms
• Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz

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• Conversion time (per channel)	65 s; 55 / 65 ms (additional 20 ms on activated wire-break test)
Smoothing of measured values	
• parameterizable	Yes; In four stages by means of digital filtering
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 4x cycle time
• Step: Medium	Yes; 32x cycle time
• Step: High	Yes; 64x cycle time
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), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.6 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.4 %
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 interference (USS < 2.5 V) , min.	90 dB
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/status information	
Diagnostic messages	
• Diagnostic information readable	Yes
• Wire-break	Yes; A break in the wire is only detected for 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)

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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 / RTD
Comparison point number	None / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8

Potential separation	
Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes

Permissible potential difference	
Between the inputs and MANA (UCM)	2 V AC PP
between MANA and M internally (UISO)	75 V DC/60 V AC

Isolation	
Isolation tested with	500 V DC

Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm

Weights	
Weight, approx.	40 g

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