SIEMENS

Data sheet 6ES7123-1JB00-0AB0

*** SPARE PART*** SIMATIC SC,ELECTRONIC SUBMODULE 2 AI, TC FOR THERMOCOUPLES TYPE R,J,K OR +/-80MV

General information	
Usable terminal block	TB 16SC
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Input current	
from supply voltage L+, max.	30 mA
Power loss	
Power loss, typ.	0.6 W
Hardware configuration	
Slots	
• required slots	1; from 8
Analog inputs	
Number of analog inputs	2
permissible input voltage for voltage input (destruction limit), max.	10 V; 20 V permanent, 25 V for max. 1 s (pulse duty ratio 1:20)
Input ranges	
• Voltage	Yes
• Thermocouple	Yes
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 J	Yes
• Input resistance (type J)	1 MΩ; 1 200 °C
• Type K	Yes
• Input resistance (Type K)	1 MΩ; 1 372 °C
• Type R	Yes
• Input resistance (Type R)	1 MΩ; 1769 °C
Thermocouple (TC)	
Temperature compensation	
— parameterizable	Yes; Type J, K, R to IEC 584
— internal temperature compensation	No

— external temperature compensation with compensations socket	Yes; one compensating box per channel
Characteristic linearization	
• parameterizable	Yes; Type J, K, R 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 (incl. overrange)	14 bit: 0.1 °C/digit; 13 bit: 1.0 °C/digit
• Resolution with overrange (bit including sign), max.	14 bit
• Integration time, parameterizable	Yes
• Basic conversion time (ms)	55 / 65 ms
• Integration time (ms)	50 / 60 ms
• Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
Smoothing of measured values	
• parameterizable	Yes; parameterizable in 4 stages by means of digital filtering
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 8x cycle time
• Step: Medium	Yes; 64x cycle time
• Step: High	Yes; 128x cycle time

Encoder	
Connection of signal encoders	
• for voltage measurement	Yes
• for voltage measurement as 2-wire transducer	Yes

Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.05 %
Temperature error (relative to input range), (+/-)	0.01 %/K
Crosstalk between the inputs, min.	50 dB; At 50/60 Hz
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.1 %
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	1 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.8 %
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

Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Potential separation	
Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	No; Optocoupler
• between the channels and the power supply of the electronics	No
Permissible potential difference	
Between the inputs and MANA (UCM)	2 V DC / 2 Vpp AC
Isolation	
Isolation tested with	1500 V AC
Dimensions	
Width	10 mm
Height	64 mm
Depth	51 mm
Weights	
Weight, approx.	20 g
last modified:	08/16/2019