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Data sheet 6ES7331-7PF11-0AB0



Figure similar

SIMATIC S7-300, ANALOG INPUT SM 331, OPTICALLY ISOLATATED, 8 AI THERMOCOUPLE, TYPE B, E, J, K, L, N, R, S, T TXK/TXK(L) ACCORDING GOST 16 BIT, 50 MS, 1 X 40 PIN

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from backplane bus 5 V DC, max.	100 mA
Power losses	
Power loss, typ.	3 W
Analog inputs	
Number of analog inputs	8
permissible input voltage for voltage input (destruction limit), max.	75 V; 20 V DC permanent, 75 V DC for max. 1 s (duty factor 1:20)
Input ranges	
• Voltage	No
• Current	No
• Thermocouple	Yes
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	
• 0 to +10 V	No
• 1 V to 5 V	No
• 1 V to 10 V	No
• -1 V to +1 V	No
• -10 V to +10 V	No

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• -2.5 V to +2.5 V	No
• -250 mV to +250 mV	No
• -5 V to +5 V	No
• -50 mV to +50 mV	No
• -500 mV to +500 mV	No
• -80 mV to +80 mV	No
Input ranges (rated values), currents	
• 0 to 20 mA	No
• -10 mA to +10 mA	No
• -20 mA to +20 mA	No
• -3.2 mA to +3.2 mA	No
• 4 mA to 20 mA	No
Input ranges (rated values), thermoelements	
• Type B	Yes
• Type E	Yes
• Type J	Yes
• Type K	Yes
• Type L	Yes
• Type N	Yes
• Type R	Yes
• Type S	Yes
• Type T	Yes
• Type U	Yes
• Type TXK/TXK(L) to GOST	Yes
Input ranges (rated values), resistance thermometer	
• Cu 10	No
• Ni 100	No
• Ni 1000	No
• LG-Ni 1000	No
• Ni 120	No
• Ni 200	No
• Ni 500	No
• Pt 100	No
• Pt 1000	No
• Pt 200	No
• Pt 500	No
Input ranges (rated values), resistors	
• 0 to 150 ohms	No
• 0 to 300 ohms	No
• 0 to 600 ohms	No
• 0 to 6000 ohms	No

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Thermocouple (TC)	
Temperature compensation	
— Parameterizable	Yes
— internal temperature compensation	Yes
— external temperature compensation with compensations socket	Yes
— external temperature compensation with Pt100	Yes
Characteristic linearization	
• Parameterizable	Yes
— for thermocouples	Type B, E, J, K, L, N, R, S. T, U, C
Cable length	
• shielded, max.	100 m

Analog value creation	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; Two's complement
• Integration time, parameterizable	Yes
• Basic conversion time (ms)	Up to 4 channels: 10 ms per module, 5 channels upwards: 190 ms per module
• Interference voltage suppression for interference frequency f1 in Hz	400 / 60 / 50 Hz

Errors/accuracies	
Operational limit in overall temperature range	
• Voltage, relative to input area, (+/-)	+/- 1 K

Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No

Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes; Parameterizable per group
• Limit value alarm	Yes; Parameterizable
Diagnostic messages	
• Diagnostic functions	Yes; Parameterizable
• Diagnostic information readable	Yes
• Diagnostics	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes

Potential separation	
Galvanic isolation analog inputs	

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• between the channels	No
• between the channels, in groups of	2
• between the channels and the backplane bus	Yes

Isolation	
Isolation checked with	500 V DC

Connection method	
required front connector	40-pin

Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm

Weights	
Weight, approx.	272 g

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