SIEMENS

Data sheet 6ES7231-7PB22-0XA0

SIMATIC S7-200, RTD INPUT MOD. EM 231, FOR S7-22X CPU ONLY, 2AI, PT100/200/500/1000/10000 NI100/120/1000, CU10, RESISTANCE 150/300/600 OHM 15 BIT+ SIGN



Figure similar

Input current	
from load voltage L+ (without load), max.	60 mA
from backplane bus 5 V DC, max.	87 mA
Power loss	
Power loss, typ.	1.8 W; Sensor: 1 mW
Analog inputs	
Number of analog inputs	2
permissible input voltage for voltage input (destruction limit), max.	30 V; 30 V DC (probe), 5 V DC (source)
Loop resistance cable	20 Ω; max. 2.7 Ohm for Cu
Updating time (all channels)	405 ms; 700 ms with Pt10000
Input ranges	
• Voltage	No
• Current	No
• Thermocouple	No
• Resistance thermometer	Yes
• Resistance	Yes
Input ranges (rated values), resistance thermometer	

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• Cu 10	Yes
• Input resistance (Cu 10)	10 MΩ
• Ni 10	Yes
• Input resistance (Ni 10)	10 MΩ
• Ni 1000	Yes
• Input resistance (Ni 1000)	10 MΩ
• Ni 120	Yes
• Input resistance (Ni 120)	10 MΩ
• Pt 100	Yes
• Input resistance (Pt 100)	10 MΩ
• Pt 1000	Yes
• Input resistance (Pt 1000)	10 MΩ
• Pt 10000	Yes
• Input resistance (Pt 10000)	10 MΩ
• Pt 200	Yes
• Input resistance (Pt 200)	10 MΩ
• Pt 500	Yes
• Input resistance (Pt 500)	10 MΩ
Input ranges (rated values), resistors	
• 0 to 150 ohms	Yes
• Input resistance (0 to 150 ohms)	10 MΩ
• 0 to 300 ohms	Yes
• Input resistance (0 to 300 ohms)	10 MΩ
• 0 to 600 ohms	Yes
• Input resistance (0 to 600 ohms)	10 MΩ
Cable length	
• shielded, max.	100 m; to the sensor

Analog value generation

Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; Temperature 0.1 °C / 0.1 °F
• Interference voltage suppression for interference frequency f1 in Hz	85 dB at 50 / 60 / 400 Hz
Displayable conversion value range	
• bipolar signals	-27.648 to +27.648

Errors/accuracies

Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Voltage, relative to output area, (+/-)	0.1 %

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Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
• Common mode voltage, max.	0 V
• Common mode interference, min.	120 dB; At 120 V DC
Interrupts/diagnostics/status information	
Diagnostics indication LED	
• external fault EXTF (red)	Yes
• Group error SF (red)	Yes
Potential separation	
Potential separation analog inputs	
• Potential separation analog inputs	Yes
Permissible potential difference	
Between the inputs and MANA (UCM)	500 V AC
between M internally and the inputs	500 V AC
Connection method	
Plug-in I/O terminals	No
Dimensions	
Width	71.2 mm
Height	80 mm
Depth	62 mm
Weights	
Weight, approx.	210 g

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