SIEMENS

Data sheet 6ES7231-7PC22-0XA0

Figure similar

SIMATIC S7-200, Analog input EM 231, only for S7-22X CPU, 4 AI, Pt100/200/500/1000/10000, NI100/120/1000, CU10, 14 GOST, Resistance 150/300/600 ohm, 15 bit+sign

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	4
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)	810 ms; 1 400 ms with Pt10000
Input ranges	
● Voltage	No
● Current	No
● Thermocouple	No
● Resistance thermometer	Yes
● Resistance	Yes
Input ranges (rated values), resistance thermometer	
● 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 for the inputs	
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 range), (+/-)	0.05 %
Operational error limit in overall temperature range	
● Voltage, relative to input range, (+/-)	0.1 %
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 AC
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

last modified: 1/20/2021