



Figure similar

*** spare part *** 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
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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 — Input resistance (0 to 600 ohms)	Yes 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. • Interference voltage suppression for interference frequency f1 in Hz	16 bit; Temperature 0.1 °C / 0.1 °F 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. • Common mode interference, min.	0 V 120 dB; At 120 V AC
Interrupts/diagnostics/status information	
Diagnostics indication LED	
• external fault EXTf (red) • Group error SF (red)	Yes 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 / header	
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 