



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	
<ul style="list-style-type: none"> • Voltage • Current • Thermocouple • Resistance thermometer • Resistance 	<ul style="list-style-type: none"> No No No Yes Yes
Input ranges (rated values), resistance thermometer	
<ul style="list-style-type: none"> • Cu 10 <ul style="list-style-type: none"> — Input resistance (Cu 10) • Ni 10 <ul style="list-style-type: none"> — Input resistance (Ni 10) • Ni 1000 <ul style="list-style-type: none"> — Input resistance (Ni 1000) • Ni 120 <ul style="list-style-type: none"> — Input resistance (Ni 120) • Pt 100 <ul style="list-style-type: none"> — Input resistance (Pt 100) • Pt 1000 <ul style="list-style-type: none"> — Input resistance (Pt 1000) • Pt 10000 <ul style="list-style-type: none"> — Input resistance (Pt 10000) • Pt 200 <ul style="list-style-type: none"> — Input resistance (Pt 200) • Pt 500 <ul style="list-style-type: none"> — Input resistance (Pt 500) 	<ul style="list-style-type: none"> Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ
Input ranges (rated values), resistors	
<ul style="list-style-type: none"> • 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 $f = n \times (f1 \pm 1 \%)$, 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 / 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 