



SIMATIC S7-200, ANALOG INPUT EM 231,
FOR S7-22X CPU ONLY, 4 AI, 0 - 10V DC,
12 BIT CONVERTER

Input current	
from load voltage L+ (without load), max.	60 mA
from backplane bus 5 V DC, max.	20 mA
Power losses	
Power loss, typ.	2 W
Analog inputs	
Number of analog inputs	4 ; Difference
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	32 mA
Input ranges	
Voltage	Yes
Current	Yes
Thermocouple	No
Resistance thermometer	No
Resistance	No
Input ranges (rated values), voltages	
0 to +5 V	Yes
Input resistance (0 to 5 V)	10 MΩ
0 to +10 V	Yes

Input resistance (0 to 10 V)	10 MΩ
-2.5 V to +2.5 V	Yes
Input resistance (-2.5 V to +2.5 V)	10 MΩ
-5 V to +5 V	Yes
Input resistance (-5 V to +5 V)	10 MΩ
Input ranges (rated values), currents	
0 to 20 mA	Yes
Input resistance (0 to 20 mA)	10 MΩ
Thermocouple (TC)	
Temperature compensation	
Parameterizable	No
Cable length	
Cable length, shielded, max.	100 m ; to the sensor
Analog value creation	
Integrations and conversion time/ resolution per channel	
Resolution with overrange (bit including sign), max.	12 bit
Interference voltage suppression for interference frequency f1 in Hz	40 dB, DC to 60 V for interference frequency 50 / 60 Hz
Conversion time (per channel)	250 μs
Displayable conversion value range	
bipolar signals	-32000 to +32000
unipolar signals	0 to 32000
Errors/accuracies	
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, f1 = interference frequency	
common mode voltage, max.	12 V
Interrupts/diagnostics/status information	
Diagnostics indication LED	
Description	LED, EXTF
Galvanic isolation	
Galvanic isolation analog inputs	
Galvanic isolation analog inputs	No
Connection method	
Plug-in I/O terminals	No
Dimensions	
Width	71.2 mm
Height	80 mm
Depth	62 mm
Weights	

Weight, approx.	183 g
Status	Sep 2, 2013