



\*\*\*Spare part\*\*\* SIMATIC S7-200, Analog input EM 231, only for S7-22X CPU, 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 loss	
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	
• shielded, max.	100 m; to the sensor
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit
• Interference voltage suppression for interference frequency $f_1$ 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
- unipolar signals

-32 000 to +32 000

[0 to 32 000](#)

#### Errors/accuracies

Interference voltage suppression for  $f = n \times (f_1 \pm 1 \%)$ ,  $f_1 =$  interference frequency

- Common mode voltage, max.

12 V

#### Interrupts/diagnostics/status information

Diagnostics indication LED

- external fault EXTf (red)

Yes

#### Potential separation

Potential separation analog inputs

- Potential separation 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

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