

SIMATIC S7-200, ANALOG I/O EM 235, FOR S7-22X CPU ONLY, 4 AI, DC +/-10V; 1AQ, DC +/-10V 12 BIT CONVERTER



Input current

from backplane bus 5 V DC, max.	30 mA
from sensor current supply or external current supply (24 V DC), max.	60 mA

Power loss

Power loss, typ.	2 W
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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

Input ranges (rated values), voltages

• 0 to +50 mV	Yes
• 0 to +100 mV	Yes

• 0 to +500 mV	Yes
• 0 to +1 V	Yes
• 0 to +5 V	Yes
• 0 to +10 V	Yes
• -1 V to +1 V	Yes
• -10 V to +10 V	Yes
• -100 mV to +100 mV	Yes
• -2.5 V to +2.5 V	Yes
• -25 mV to +25 mV	Yes
• -250 mV to +250 mV	Yes
• -5 V to +5 V	Yes
• -50 mV to +50 mV	Yes
• -500 mV to +500 mV	Yes
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
Thermocouple (TC)	
Temperature compensation	
— Parameterizable	No
Analog outputs	
Number of analog outputs	1
Output ranges, voltage	
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
Load impedance (in rated range of output)	
• with voltage outputs, min.	5 k Ω
• with current outputs, max.	0.5 k Ω
Analog value generation	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; 11 bits for current output
• Basic conversion time (ms)	< 0.25 ms
• Interference voltage suppression for interference frequency f1 in Hz	40 dB, DC to 60 Hz
Settling time	
• for voltage output	100 μ s
• for current output	2 ms
Displayable conversion value range	
• bipolar signals	-32 000 to +32 000
• unipolar signals	0 to 32000
Errors/accuracies	

Operational error limit in overall temperature range

- Voltage, relative to output area, (+/-) 2 %
- Current, relative to output area, (+/-) 2 %

Basic error limit (operational limit at 25 °C)

- Voltage, relative to output area, (+/-) 0.5 %
- Current, relative to output area, (+/-) 0.5 %

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

Potential separation analog outputs

- Potential separation analog outputs No

Connection method

Plug-in I/O terminals No

Dimensions

Width	71.2 mm
Height	80 mm
Depth	62 mm

Weights

Weight, approx. 186 g

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