

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 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
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 to +10 V	Yes
Output ranges, current	
0 to 20 mA	Yes
Load impedance (in rated range of output)	
with voltage outputs, min.	5 kΩ
with current outputs, max.	0.5 kΩ
Analog value creation	
Integrations 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 μs
for current output	2 ms
Displayable conversion value range	
bipolar signals	-32000 to +32000
unipolar signals	0 to 32000
Errors/accuracies	
Operational 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 $f = n \times (f1 \pm 1 \%)$, f1 = interference frequency	
common mode voltage, max.	12 V
Interrupts/diagnostics/status information	
Diagnostics indication LED	
External fault EXTf (red)	Yes
Galvanic isolation	
Galvanic isolation analog inputs	
Galvanic isolation analog inputs	No

Galvanic isolation analog outputs	
Galvanic isolation 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
Status	Dec 30, 2013