

EM 235 ANALOG INPUT/OUTPUT

Overview

- Analog inputs and outputs for the SIMATIC S7-200

Application

- Analog input/output modules support:
 - The link-up of the control with analog process signals
 - The output of analog signals from the control to the process
- They convert:
 - Analog signals from the process into digital signals for processing within the SIMATIC S7-200
 - Digital signals from the S7-200 into analog signals for the process



Technical specifications

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	6ES7 232-0HB22-0XA0	6ES7 232-0HD22-0XA0
Input current		
from backplane bus 5 V DC, max.	20 mA	20 mA
from sensor current supply or external current supply (24 V DC), max.	70 mA	70 mA
Power losses		
Power loss, typ.	2 W	2 W
Analog outputs		
Number of analog outputs	2	4
Output ranges, voltage		
•-10 to +10 V	Yes	Yes
Output ranges, current		
•4 to 20 mA	Yes	Yes
Load impedance (in rated range of output)		
•with voltage outputs, min.	5 k	5 k
•with current outputs, max.	0.5 k	0.5 k

Analog value creation		
Integrations and conversion time/ resolution per channel		
•Resolution (incl. overrange)	V/12 bits, I/11 bits	V/12 bits, I/11 bits
Settling time		
•for voltage output	100 μ s	100 μ s
•for current output	2 ms	2 ms
Displayable conversion value range		
•bipolar signals	-32000 to +32000	-32000 to +32000
•unipolar signals	0 to 32000	0 to 32000
Errors/accuracies		
Operational limit in overall temperature range		
•Voltage, relative to output area	+/- 2 %	+/- 2 %
•Current, relative to output area	+/- 2 %	+/- 2 %
Basic error limit (operational limit at 25 °C)		
•Voltage, relative to output area	+/- 0,5 %	+/- 0,5 %
•Current, relative to output area	+/- 0,5 %	+/- 0,5 %

Galvanic isolation		
Galvanic isolation analog outputs		
•Galvanic isolation analog outputs	No	No
Connection method		
Plug-in I/O terminals	No	No
Dimensions		
Width	46 mm	71.2 mm
Height	80 mm	80 mm
Depth	62 mm	62 mm
Weight		
Weight, approx.	148 g	190 g