

SM 1232 ANALOG OUTPUT MODULE



Function

SM 1232 analog output signal modules convert digital signals of the SIMATIC S7-1200 into signals for controlling the respective process.

Technical specifications

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	6ES7 232-4HB30-0XB0 SM 1232 AQ 2x14 bit	6ES7 232-4HD30-0XB0 SM 1232 AQ 4 x 14bit
Supply voltage 24 V DC	Yes	Yes
Input current Current consumption, typ.	45 mA	45 mA
from backplane bus 5 V DC, typ.	80 mA	80 mA
Power losses		

Power loss, typ.	1.5 W	1.5 W
Analog inputs		
Number of analog inputs	0	
Temperature compensation		
•Parameterizable	No	No
Analog outputs		
Number of analog outputs	2; Current or voltage	4; Current or voltage
Output ranges, voltage		
•-10 to +10 V	Yes	Yes
Output ranges, current		
•0 to 20 mA	Yes	Yes
Load impedance (in rated range of output)		
•with voltage outputs, min.	1 000	1 000
•with current outputs, max.	600	600
Analog value creation		
Measurement principle	Differential	Differential
Integrations and conversion time/ resolution per channel		
•Resolution (incl. overrange)	Voltage: 14 bits; Current : 13 bits	Voltage: 14 bits; Current : 13 bits
•Integration time, parameterizable	Yes	Yes
•Interference voltage suppression for interference frequency f1 in Hz	40 dB, DC to 60 V for interference	40 dB, DC to 60 V for interference

•Interference voltage suppression for interference frequency f1 in Hz	frequency 50 / 60 Hz	frequency 50 / 60 Hz
Errors/accuracies		
Temperature error (relative to output area)	25 °C ±0.3% to 55 °C ±0.6% total measurement range	25 °C ±0.3% to 55 °C ±0.6% total measurement range
Basic error limit (operational limit at 25 °C)		
•Voltage, relative to output area	+/- 0,3 %	+/- 0,3 %
•Current, relative to output area	+/- 0,3 %	+/- 0,3 %
Interference voltage suppression for $f = n \times (f1 \pm 1\%)$, $f1 =$ interference frequency		
•common mode voltage, max.	12 V	12 V
Interrupts/diagnostics/status information		
Alarms		
•Alarms	Yes	Yes
•Diagnostic alarm	Yes	Yes
Diagnoses		
•Diagnostic functions	Yes	Yes
•Monitoring the supply voltage to the electronics	Yes	Yes
•Wire break	Yes	Yes
•Short circuit	Yes	Yes

Diagnostics indication LED <ul style="list-style-type: none"> • For status of the outputs • for maintenance 	 Yes Yes	 Yes Yes
Climatic and mechanical conditions for storage and transport Climatic conditions for storage and transport <ul style="list-style-type: none"> • Free fall <ul style="list-style-type: none"> • Drop height, max. (in packaging) • Temperature <ul style="list-style-type: none"> • Permissible temperature range • Air pressure acc. to IEC 60068-2-13 <ul style="list-style-type: none"> • Permissible air pressure 	 0.3 m; five times, in dispatch package -40 °C to +70 °C 1080 to 660 hPa	 0.3 m; five times, in dispatch package -40 °C to +70 °C 1080 to 660 hPa
Mechanical and climatic conditions during operation Climatic conditions in operation <ul style="list-style-type: none"> • Temperature <ul style="list-style-type: none"> • Permissible temperature range 	 0 °C to 55 °C horizontal installation 0 °C to 45 °C vertical installation	 0 °C to 55 °C horizontal installation 0 °C to 45 °C vertical installation

•Air pressure acc. to IEC 60068-2-13	1080 to 795 hPa	1080 to 795 hPa
• Permissible air pressure		
•Pollutant concentrations		
• SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Degree and class of protection		
IP20	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
C-TICK	Yes	Yes
FM approval	Yes	Yes
Connection method		
required front connector	Yes	Yes
Mechanics/material		
Type of housing (front)		
•Plastic	Yes	Yes
Dimensions		
Width	45 mm	45 mm
Height	100 mm	100 mm
Depth	75 mm	75 mm
Weight		
Weight, approx.	180 g	180 g