



SIMATIC S7-1200 G2: SM 1232 analog output, 8 AO; outputs: 8x AQ 14 bit DAC (+/-10 V, 0-20 mA or 4-20 mA)

Figure similar

General information	
Product type designation	SM 1232, AQ 8x 14 bit
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, typ.	45 mA
from backplane bus 5 V DC, typ.	90 mA
Power loss	
Power loss, typ.	5.6 W
Analog outputs	
Number of analog outputs	8; Current or voltage
Output ranges, voltage	
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
• 4 mA to 20 mA	Yes
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 000 Ω
• with current outputs, max.	600 Ω
Cable length	
• shielded, max.	100 m; shielded, twisted pair
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	14 bit; Voltage: 14 bit; Current : 13 bit
Errors/accuracies	
Temperature error (relative to output range), (+/-)	25 °C ±0.3 % / -20 °C to 60 °C ±0.6 % of the full-scale deflection
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.3 %
• Current, relative to output range, (+/-)	0.3 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes

<b>Diagnostics indication LED</b>	
• DIAG LED	Yes
• for status of the outputs	Yes
<b>Degree and class of protection</b>	
IP degree of protection	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	No
UL approval	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	No
Marine approval	No
<b>Ambient conditions</b>	
<b>Free fall</b>	
• Fall height, max.	0.3 m; five times, in product package
<b>Ambient temperature during operation</b>	
• min.	-20 °C
• max.	40 °C; at max. voltages and max. specifications
• horizontal installation, min.	-20 °C
• horizontal installation, max.	60 °C; at rated voltages, 50 % of max. specification and alternate IO active
• vertical installation, min.	-20 °C
• vertical installation, max.	50 °C; at rated voltages, 50 % of max. specification and alternate IO active
<b>Ambient temperature during storage/transportation</b>	
• min.	-40 °C
• max.	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
• Operation, min.	540 hPa
• Operation, max.	1 140 hPa
• Storage/transport, min.	540 hPa
• Storage/transport, max.	1 140 hPa
<b>Altitude during operation relating to sea level</b>	
• Installation altitude, min.	-1 000 m
• Installation altitude, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
<b>Relative humidity</b>	
• Operation at 25 °C without condensation, max.	95 %
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz
• Operation, tested according to IEC 60068-2-6	Yes
<b>Shock testing</b>	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
<b>Pollutant concentrations</b>	
• SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
<b>connection method</b>	
required front connector	No
<b>Mechanics/material</b>	
Enclosure material (front)	
• Plastic	Yes
<b>Dimensions</b>	
Width	30 mm
Height	125 mm
Depth	100 mm
<b>Weights</b>	
Weight, approx.	173 g
<b>last modified:</b>	1/22/2025 