

Spare part SIMATIC S7-1200, Analog output, SM 1232, 2 AO, +/-10 V, 14-bit resolution, or 0-20 mA, 13-bit resolution



General information	
Product type designation	SM 1232, AQ 2x14 bit
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
Input current	
Current consumption, typ.	45 mA
from backplane bus 5 V DC, typ.	80 mA
Power loss	
Power loss, typ.	1.5 W
Analog outputs	
Number of analog outputs	2; Current or voltage
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. 1 000 Ω
- with current outputs, max. 600 Ω

Analog value generation for the outputs

Integration and conversion time/resolution per channel

- Resolution (incl. overrange) Voltage: 14 bits; Current : 13 bits

Errors/accuracies

Temperature error (relative to output range), (+/-) 25 °C $\pm 0.3\%$, to 55 °C $\pm 0.6\%$ total measurement range

Basic error limit (operational limit at 25 °C)

- Voltage, relative to output range, (+/-) 0.3 %
- Current, relative to output range, (+/-) 0.3 %

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

Alarms Yes

Diagnostic functions Yes

Alarms

- Diagnostic alarm Yes

Diagnostic messages

- Monitoring the supply voltage Yes
- Wire-break Yes
- Short-circuit Yes

Diagnostics indication LED

- for status of the outputs Yes
- for maintenance Yes

Degree and class of protection

Degree of protection acc. to EN 60529

- IP20 Yes

Standards, approvals, certificates

CE mark Yes

FM approval Yes

RCM (formerly C-TICK) Yes

Ambient conditions

Free fall

- Fall height, max. 0.3 m; five times, in product package

Ambient temperature during operation

- min. 0 °C
- max. 55 °C
- horizontal installation, min. 0 °C
- horizontal installation, max. 55 °C
- vertical installation, min. 0 °C

• vertical installation, max.	45 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Operation, min.	795 hPa
• Operation, max.	1 080 hPa
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
Relative humidity	
• Operation at 25 °C without condensation, max.	95 %
Pollutant concentrations	
• SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Connection method	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	180 g
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